

Luciano Iess

Curriculum Vitae and Publication List

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General Information

Full Name	Luciano Iess
Date of Birth	8 May 1958
Place of Birth	Padova, Italy
Citizenship	Italian
Office Phone Number	+39 06 44585336
E-mail	luciano.iess@uniroma1.it
Interests	Geology, canyoning, trekking



Education

1976-1980 Alumnus, Collegio Ghislieri, Pavia, Italy
1981 *Laurea* in physics, with honors, University of Pavia, Italy

Academic and Research Appointments

1982-1992 Research scientist at Istituto di Fisica dello Spazio Interplanetario, Consiglio Nazionale delle Ricerche (CNR, Italian National Research Council), Frascati, Italy
1992-2015 Associate professor of Aerospace Engineering, Sapienza Università di Roma, Rome, Italy
1993 Visiting Research Scientist, European Space and Technology Centre (ESTEC), European Space Agency, Noordwijk, The Netherlands (4 months)
1995-1996 Visiting Scientist, California Institute of Technology, Jet Propulsion Laboratory, Pasadena, Ca., USA (12 month, supported by a National Science Foundation grant)
1997 Visiting Scientist, California Institute of Technology, Jet Propulsion Laboratory (supported by a short term fellowship from the Italian National Research Council)
2015 Professor of Aerospace Engineering, Sapienza Università di Roma, Rome, Italy

Major Scientific and Technical Achievements

- 2003: Most accurate test of Einstein's theory of General Relativity to date (paper #2 in section "Selected Publications").

- 2005-2011: Development of the ESA ΔDOR, an essential tool for deep space navigation and European access to deep space by enabling measurements of spacecraft's angular positions at nanoradian level (see Conference proceeding #43 and Funding Information).
- 2012: Discovery of Titan's internal ocean (ranked within the top 100 scientific discoveries of the year 2012 by Discover Magazine, paper #15 in section "Selected Publications").
- 2014: Discovery of Enceladus' internal sea (ranked within the top 100 scientific discoveries of the year 2014 by Discover Magazine, within top 25 scientific discoveries of the year by the magazine Science News and within the top 10 discoveries of the year by the Italian newspaper La Repubblica - paper #16 in section "Selected Publications").

Awards

Major awards

- 2014 (Aug. 14) NASA Exceptional Public Service Medal ("For the exceptional service and scientific discoveries by means of the Cassini Radio Science Investigations and collaboration between NASA/JPL and Agenzia Spaziale Italiana.")
- 2016 (Nov. 15) Jean-Dominique Cassini Medal of the European Geosciences Union (EGU) ("The medal has been established to honour scientists who have achieved exceptional international standing in planetary and space sciences in the spirit of Jean Dominique Cassini.")

Other Individual and Group Awards

- 1990: European Space Agency Award to L. Iess "For making a valuable contribution to the Ulysses Project."
- 1992 (June 30): NASA Group Achievement Award for the Ulysses Spacecraft Development, Integration, and Launch Support Team, to Luciano Iess, Search for Gravitational Waves Team, "In recognition of outstanding conduct of Ulysses science and mission operations during the Jupiter Flyby period".
- 1993 (February 10): NASA Group Achievement Award for the Ulysses Jupiter Flyby Team, to L. Iess, Search for Gravitational Waves Team, "In recognition of outstanding developments and integration of science instruments".
- 1998 (April 14): NASA Group Achievement Award for the Cassini Program, Doppler Wind Experiment Team, to Luciano Iess "In recognition of outstanding achievements in the innovative design, build and timely delivery of the Huygens Probe Doppler Wind Experiment".
- 2009 (April 17): NASA Group Achievement Award to Luciano Iess, Cassini Radio Science Team, "For outstanding contributions leading to the success of the Cassini Radio Science Investigation at Saturn".
- 2012 (Nov. 5): NASA Certificate of Appreciation to Luciano Iess, KaT Team, "For exceptional accomplishment in the development and delivery of the Ka-band translator for Juno mission to Jupiter".
- 2015 (Apr. 17): European Space Agency Award to Luciano Iess "In recognition for your outstanding contribution to the Cassini-Huygens mission".
- 2015 (June 2): NASA Group Achievement Award to Luciano Iess, Cassini Solstice Mission Titan Team, "For leadership and technical expertise in realizing the Solstice Mission Titan science objectives including the 100th Titan flyby".

- 2015 (June 2): NASA Group Achievement Award to Luciano Iess, Enceladus and Titan Gravity Science Team, “For exceptional achievements in planning and executing gravity science experiments revealing the interior structures of Saturn’s moons Titan and Enceladus”.
- 2015 (June 2): NASA Group Achievement Award to Luciano Iess, Juno Orbital Studies Team, “For outstanding technical rigor and creativity in completing Juno’s Orbital Operations risk assessment and operation studies”.

Appointments in Scientific and Technical Boards

1997-2003	Science Advisory Group of the Mercury Orbiter mission (now BepiColombo), European Space Agency
1998	Peer Review Committee for the selection of the payload of the mission Mars Express, ESA
1999-2003	Solar System Working Group (SSWG), European Space Agency (ESA)
2007-2008	Topical Working Groups, Italian Space Agency
2007-2010	Space Science Advisory Committee (SSAC), European Space Agency (This is the highest advisory body of ESA’s scientific programme.)
2011-2014	STE-QUEST Mission Concept Science Study Team (M-class mission; optical clocks and atom interferometry in space), European Space Agency
2011-2013	Science Advisory Group of the Mars Network Science Mission (now INSPIRE), European Space Agency
2014-now	Human Spaceflight and Exploration Science Advisory Committee (HESAC) European Space Agency

Other appointments

- Member of national boards for the confirmation of associate professors and researchers (appointment from the Italian Ministry of Education, University and Research)
- Member of PhD evaluation boards (in Italy and abroad)
- Member of boards for the selection of research assistants (Sapienza Univ. di Roma)
- Technical advisor to Selex-Galileo in the legal controversy with Compagnia Generale dello Spazio (CGS) on the PRISMA program of the Italian Space Agency

Teaching Appointments

Recent appointments in the Aerospace Engineering, Space Engineering, and Astronautical and Space Engineering curricula, Sapienza Università di Roma

2009-2010	Dipartimento di Ingegneria Aerospaziale Astronautica	Space Missions and Systems
2010-now	Dipartimento di Ingegneria Meccanica e Aerospaziale	Space Missions and Systems (*)
2010-2015	Dipartimento di Ingegneria Meccanica e Aerospaziale	Space Environment and Instrumentation
2014-now	Dipartimento di Ingegneria Meccanica e Aerospaziale	Space Environment

(*) Course shared with prof. C. Ulivieri in the second semester of 2012 course (February-May 2013).

Appointments in the period 1992-2009, Aerospace Engineering and Astronautical Engineering curricula, Sapienza Università di Roma

1992-2009	Scuola di Ingegneria Aerospaziale	Aerospace Instrumentation
	Scuola di Ingegneria Aerospaziale	Space Environment and Instrumentation
	Scuola di Ingegneria Aerospaziale	Physical Sciences Experiments in Space
	Scuola di Ingegneria Aerospaziale	Space Environment

Teaching appointments in Master Courses and Schools

- Director of the Course on “Planetary Interiors”, International School of Space Science, L’Aquila, Italy, 12-16 September 2016, L’Aquila (Italy).
- Master course in Satellites and Orbiting Platforms (Sapienza Univ.), Space Environment and Science Missions module (2003-2017).
- Master course in Space Science and Technology (University of Tor Vergata), Space Missions seminars (2011-2017).
- Summer School on Planetary Geodesy & Remote Sensing, July 1-7, 2013, Shanghai, China.
- 1st Sardinian Summer School in Astrophysics, Single Dish Radio Astronomy and Radio Science (Pula, Sept. 12-17, 2011).
- 2nd Sardinian Summer School in Astrophysics, Technology in Radio Astronomy and Space Science (Pula, June 11-16, 2012).
- Master course in Space Communications Systems (Fondazione Space Academy), seminar on “Science Missions: Scenarios and Prospects” (Fucino, 2006).
- SIGRAV Graduate School in Contemporary Relativity and Gravitational Physics, VIII Edition, “Gravity: Where Do We Stand?”, Villa d’Olmo, Como, May 11-15, 2009.

As Thesis Advisor

- Advisor of 15 doctoral thesis
- Advisor of more than 40 master thesis

Miscellaneous Appointments

Reviewer and referee

- Referee for numerous journals (including *Science* and *Nature*)
- External reviewer for the selection of proposals for NASA’s Cassini Data Analysis Program (CDAP, 2011)
- Reviewer for EU FP7 program “ESPACE: Exploitation of space science and exploration data in Space” (2012-2013)
- Member of the NASA board for the selection of proposals for the Cassini Data Analysis Program (CDAP, 2013)
- Reviewer for the Deutsche Forschungsgemeinschaft (DFG), Germany's major independent research funding agency (2014)
- External reviewer for NASA’s NSPIRES Program, Astrobiology Institute Cycle 7 (2014)
- External reviewer for the selection of the science payload of NASA’s Europa Mission (2015)
- Reviewer for the U.S.-Israel Binational Science Foundation (2015)
- Reviewer for the Agence Nationale de la Recherche (ANR, French National Research Agency) (2015)
- Reviewer for the Italian Space Agency (ASI) and the Italian National Nuclear Physics Institute (INFN)

- Member of the Scientific Committee of the PhD Funding Project, Fondazione Cassa di Risparmio di Padova e Rovigo, for the funding of the Graduate Schools of the University of Padua (2012-2014)
- Member of the Evaluation Committee of the Starting Grants Project, Science and Technology, Fondazione Cassa di Risparmio di Padova e Rovigo (grants for research projects led by young researchers of the University of Padua, 2015)
- Member of the ESA Review Panel for the evaluation of the JUICE Interdisciplinary Scientist proposals (2015).

Other miscellaneous appointments

- Member of national boards for the confirmation of associate professors and researchers (appointment from the Italian Ministry of Education, University and Research)
- Member of PhD evaluation boards (in Italy and abroad)
- Member of boards for the selection of research assistants (Univ. La Sapienza)
- Member of boards for the selection of assistant professor (Politecnico di Torino)
- Member of the board for the selection of technical staff at the Italian Space Agency
- Technical advisor to Selex-ES in the legal controversy with Compagnia Generale dello Spazio (CGS) (2013-2015)

Participation in Space Projects and Missions

As Principal Investigator or Science Team Member, in response to an open, competitive, Announcement of Opportunity

- 1990: Membership in the Radio Science Team of the mission Cassini to Saturn (individual proposal selected by NASA – AO OSSA-1-89).
- 1998: Principal Investigator in the experiment RSIS (Radio Science Investigations with SMART-1) for the ESA technology demonstration mission SMART-1 (selected by ESA, Announcement of Opportunity SCI(98)2, 1998).
- 2004: Principal Investigator of the experiment MORE (Mercury Orbiter Radioscience Experiment) of the ESA mission BepiColombo (selected by ESA, Announcement of Opportunity SCI-PB/RFP/1155, 2004)
- 2012: Principal Investigator of the 3GM (Geodesy and Geophysics of Jupiter and the Galilean Moons) of the ESA mission JUICE to the Jovian system (selected by ESA, Announcement of Opportunity ESA/SRE(2012)4)

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As Co-Investigator, in response to an open, competitive, Announcement of Opportunity

- 1983: Co-Investigator in the experiment RETE (Research on Electrodynamic Tether Effects) for the missions of the Tethered Satellite System (TSS-1 e TSS-1R) (selected by ASI and NASA).
- 1989: Co-Investigator in the experiment GWE (Gravitational Wave Experiment) of the ESA mission Ulysses (selected by ESA).
- 1990: Co-Investigator in the experiment DWE (Doppler Wind Experiment) of the mission Huygens to Titan (selected by ESA).
- 1993: member of the Joint Gravitational Wave Experiment team, for the missions Ulysses (ESA), Galileo and Mars Observer (NASA).
- 2007: ASI Principal Investigator of the instrument KATS (Ka-band Transponder System) of the NASA mission JUNO.

- 2010: member of the STE-QUEST team (proposal selected for Phase A study, M-class mission)

As Study Lead, in response to an open Invitation to Tender (ITT) or direct negotiation

- 2005: Team Lead for the development of the ESA Δ DOR Correlator for the determination of the angular position of interplanetary probes (four ESA contracts between 2005-2011)
- 2010: Lead of the study “Interdisciplinary Study on Enhancement of End-to-End Accuracy for Spacecraft Tracking Techniques”, ESA GSP Programme ITT AO/1-6221/09/F/MOS [prime contractor: DIMA; subcontractors: Thales Alenia Space Italy, British Aerospace Systems, Almaspace]
- 2014: Lead of the study “Improvement of Δ DOR performances for 1 nrad accuracy for precise landing support”, ESA ITT AO/-1-7678/13/D/EF [prime contractor: DIMA; subcontractors: Thales Alenia Space Italy, British Aerospace Systems, ArpSoft]

Funding Information

Contracts as PI-Principal Investigator or Study Lead (2005-now)

Year	Title	Funding Agency
2005	Design and Development of a SW Correlator for Deep Space Tracking Support	ESA
2006	Attività Scientifiche fase A/B1 BepiColombo MORE	ASI
2006	Enhancement of the S/W Correlator for Deep Space Tracking Support	ESA
2007	Enhancement of the S/W Translator for Deep Space Tracking Support	ESA
2009	Cassini-Huygens Fase E2 – Attività scientifiche	ASI
2009	Radio Scienza per BepiColombo e Juno fasi B2/C/D	ASI
2010	Enhancement of the Δ DOR Software Package	ESA
2011	Interdisciplinary Study on Enhancement of End-to-End Accuracy for Spacecraft Tracking Techniques	ESA (GSP Programme)
2013	Studio degli strumenti scientifici per la missione JUICE – 3GM	ASI
2013	Improving Data Return in Ka-Band by Use of Weather Forecast	ESA
2015	Radio Scienza per BepiColombo e Juno fasi B2/C/D - Addendum	ASI

As Group Lead of a subcontractor unit (after 2007)

Year	Study/Contract	Agency	Prime contractor
2008	Radiocomm Signals: a “New Way” of Probing the Surf of Planets	ESA	GMV

2009	Radio Tracking of a Landed Spacecraft: Determination of the Spacecraft Position and the Ephemeris and Orientation in Space”	ESA	GMV
2014	HERO: High performance time and frequency link: microwave	ESA	WISER
2014	End-to-End Mission Performance Simulators for Space Science Missions	ESA	GMV
2015	Flexible and Autonomous TT&C Transponders for Multi-Mission Applications	ESA	Thales Alenia Space Italy
2015	CUBATA for Asteroid Impact Mission Cubesat Opportunity Payloads (COPINS)	ESA	GMV

Research Activities

Keywords

- Spacecraft tracking systems
- Orbit determination
- Space instrumentation
- Planetary geodesy
- Solar system exploration
- Solar system environments

Summary of Scientific Achievements

Peer reviewed papers	64
Conference papers	77(*)
Conference abstracts	90(*)

(*) Last update: 2015

(22 Feb. 2017)	WoS	Scopus
Total Citations	2123	2385
Total Citations (without self citations)	2025	2263
Average Citations per Product	25.89 (*)	24.84 (**)
Average Citations per Product (without self citations)	24.70 (*)	23.57 (**)
H-index	23	23
H-index (without self citations from author)	N/A	23

(*) Total citations / number of products (82 for WoS)

(**) Total citing articles / number of products (96 for Scopus)

Selected publications (top 20, author's choice, since 2000)

- 1) J. Corsi, L. Iess: "Stability and Control of Electrodynamic Tethers", *Acta Astronautica*, **48**, 491 (2001)
- 2) B. Bertotti, L. Iess, P. Tortora: "A test of general relativity using radio links with the Cassini spacecraft" *Nature*, **425**, 374-376 (2003). doi:10.1038/nature01997 [Supporting Online Material can be downloaded from the web page of the doi link.]
- 3) J.W. Armstrong, L. Iess, P. Tortora, B. Bertotti: "Stochastic gravitational wave background: upper limits in the 10^{-6} - 10^{-3} Hz band" *Astrophys. J.*, **599**, 806-813 (2003). doi: 10.1086/379505
- 4) P. Tortora, L. Iess, J.J. Bordi, J.E. Ekelund, D.C. Roth: "Precise Cassini navigation during solar conjunctions through multifrequency plasma calibrations" *J. Guidance, Control and Dynamics*, **27**(2), 251-257 (2004). doi:10.2514/1.997
- 5) L. Somenzi, L. Iess, J. Pelaez: "Linear stability analysis of electrodynamic tethers" *J. Guidance, Control and Dynamics*, **28**(5), 843-849 (2004). doi: 10.2514/1.11822
- 6) S.W. Asmar, J.W. Armstrong, L. Iess, P. Tortora: "Spacecraft Doppler tracking: Noise budget and accuracy achievable in precision radio science observations" *Radio Science*, **40**, RS2001 (2005). doi:10.1029/2004RS003101
- 7) P. Tortora, L. Somenzi, L. Iess, R. Licata: "Small mission design for testing in-orbit an electrodynamic tether deorbiting system" *J. Spacecraft and Rockets*, **43**(4), 883-892 (2006). doi: 10.2514/1.15359
- 8) L. Iess, N.J. Rappaport, P. Tortora, J. Lunine, J.W. Armstrong, S.W. Asmar, L. Somenzi, F. Zingoni: "Gravity field and interior of Rhea from Cassini data analysis" *Icarus*, **190**, 585-593 (2007). doi: 10.1016/j.icarus.2007.03.027.
- 9) P. C. Thomas, J. W. Armstrong, S.W. Asmar, J. A. Burns, T. Denk, B. Giese, P. Helfenstein, L. Iess, T.V. Johnson, A. McEwen, L. Nicolaisen, C. Porco, N.J. Rappaport, J. Richardson, L. Somenzi, P. Tortora, E. P. Turtle, J. Veverka: "Hyperion's sponge-like appearance" *Nature*, **448**, 50-53 (2007). doi: doi:10.1038/nature05779. [Supporting Online Material can be downloaded from the web page of the doi link.]
- 10) L. Iess and S.W. Asmar: "Probing space-time in the solar system: from Cassini to BepiColombo" *Int. J. Mod. Phys.*, **16**, 2117-2126 (2007). doi: 10.1142/S0218271807011449.
- 11) B. Bertotti, N. Ashby, L. Iess: "The effect of the motion of the Sun on the light-time in interplanetary relativity experiments" *Class. Quant. Grav.*, **25** (4), 045013(11p) (2008). doi:10.1088/0264-9381/25/4/045013
- 12) R.D. Lorenz, B. Stiles, R.L. Kirk, M. Allison, P. Persi del Marmo, L. Iess, J.I. Lunine, S.J. Ostro, S. Hensley : "Titan's Rotation Reveals an Internal Ocean and Changing Zonal Winds" *Science*, **319**, 1649-1651 (2008). doi: 10.1126/science.1151639 [Supporting Online Material can be downloaded from the web page of the doi link.]

- 13) J.W. Armstrong, F. Estabrook, S. W. Asmar, L. Iess, P. Tortora: "Reducing antenna mechanical noise in precision spacecraft tracking" *Radio Sci.*, **43**, RS3010(7p) (2008). doi:10.1029/2007RS003766.
- 14) L.Iess, S.W. Asmar, P.Tortora: "MORE: an advanced tracking experiment for the exploration of Mercury with the mission BepiColombo" *Acta Astronautica*, **65**, 666-675 (2009). doi: 10.1016/j.actaastro.2009.01.049
- 15) L.Iess, N.J. Rappaport, R.A. Jacobson, P. Racioppa, D.J. Stevenson, P. Tortora, J.W. Armstrong, S.W. Asmar: "Gravity Field, Shape, and Moment of Inertia of Titan" *Science*, **327** (5971), 1367-1369 (2010). doi: [10.1126/science.1182583](https://doi.org/10.1126/science.1182583)
- 16) L. Iess, R.A. Jacobson, M. Ducci, D.J. Stevenson, J.I. Lunine, J.W. Armstrong, S.W. Asmar, P.Racioppa, N.J. Rappaport, P. Tortora: "The Tides of Titan" *Science*, **337**, 457-459, doi: 10.1126/science.1219631 (2012).
- 17) A. Genova, L. Iess, M. Marabucci: "Mercury's gravity field from the first six months of Messenger data" *Planet. Space Sci.*, **81**, 55-64 (2013). doi: 10.1016/j.pss.2013.02.006
- 18) D. Hemingway, F. Nimmo, H. Zebker, L. Iess: "A rigid and weathered ice shell on Titan" *Nature*, **500**, 550-552 (2013). doi:10.1038/nature12400
- 19) L. Iess, M. Di Benedetto, N. James, M. Mercolino, L. Simone, P. Tortora: "Astra: Interdisciplinary study on enhancement of the end-to-end accuracy for spacecraft tracking techniques" *Acta Astronautica*, **94**, 699-707 (2014). doi: 10.1016/j.actaastro.2013.06.011
- 20) L. Iess, D.J. Stevenson, M. Parisi, D. Hemingway, R.A. Jacobson, J.I. Lunine, F. Nimmo, J.W. Armstrong, S.W. Asmar, M. Ducci, P. Tortora: "The Gravity Field and Interior Structure of Enceladus" *Science*, **344**, 78-80 (2014). doi: 10.1126/science.1250551

FULL PUBLICATION LIST

Publications (Main Journals, Peer Reviewed)

- 1) L.Iess, M.Dobrowolny, B.Bertotti : "Plasma effects on Doppler measurement of interplanetary spacecraft", *Astron. Astrophys.* 121, 203 (1983).
- 2) B.Bertotti, L.Iess : "Doppler search for a gravitational background radiation with two spacecraft", *Gen. Rel. Grav.*, 17, 1043 (1985).
- 3) M.Dobrowolny, L.Iess : "Interplanetary plasma turbulence and the Doppler detection of a gravitational wave background", *Astron. Astrophys.*, 157, 346 (1986).
- 4) H.A.Shah, L.Iess., M.Dobrowolny : "Parallel proton heating in the solar wind by oblique Alfen waves", *Il Nuovo Cimento*, 9C, 1035 (1986).
- 5) L. Iess, B.Bertotti, P.Bonifazi, G.Comoretto: "Differential Doppler tracking of interplanetary spacecraft", *Il Nuovo Cimento*, 10C, 235 (1987)
- 6) L.Iess and M.Dobrowolny : "The interaction of a hollow cathode with the ionosphere", *Phys. Fluids B*, 1880, 1 (1989).
- 7) G. Vannaroni, C.B. Cosmovici, U. Guidoni, L. Iess, L. Scandurra: "Interaction of a hollow-cathode source with an ionospheric plasma", *Adv. Space Res.*, (7)147, 10 (1990).
- 8) G.Comoretto, L.Iess, B.Bertotti, G.Grueff, J.P.Brenkle, T.Horton: "Spacecraft Doppler tracking with a VLBI antenna", *Il Nuovo Cimento C*, 169, 13C (1990).
- 9) I.Ciufolini, M.Dobrowolny, L.Iess: "Effect of particle drag on the LAGEOS node and measurement of the gravitomagnetic field", *Il Nuovo Cimento B*, 573, 105B (1990).
- 10) B.Bertotti, L.Iess: "The rotation of LAGEOS", *J. Geophys. Res.*, 96, B2, 2431 (1991).
- 11) B.Bertotti, R. Ambrosini, S.W. Asmar, J.P. Brenkle, G. Comoretto, G. Giampieri, L. Iess, A. Messeri, H.D. Wahlquist: "The Gravitational Wave Experiment", *Astron. Astrophys. Suppl. Ser.*, 92, 431 (1992).
- 12) G.Comoretto, B.Bertotti, L.Iess, R.Ambrosini: "Doppler experiments with CASSINI radio system" *Il Nuovo Cimento* 15C, 1193 (1992).
- 13) B.Bertotti, G.Comoretto, L.Iess: "Doppler tracking of spacecraft with multifrequency links", *Astron. Astrophys.*, 269, 608 (1993).
- 14) M.Dobrowolny, E.Melchioni, U.Guidoni, L.Iess, M.Maggi, R.Orfei, Y.De Conchy, C. Harvey, R. Manning, F. Wouters, J.P. Lebreton, S. Ekholm, A. Butler: "The RETE experiment for the TSS-1 mission", *Il Nuovo Cimento* 17C (1994).

- 15) B.Bertotti, R. Ambrosini, J.W. Armstrong, S.W. Asmar, J.P.Brenkle, G. Comoretto, G. Giampieri, L. Iess, A. Messeri, A. Vecchio, H.D. Wahlquist : "Search for gravitational wave trains with the spacecraft ULYSSES", *Astron. Astrophys.* 296, 13-25 (1995).
- 16) G. Haerendel, A. Piras, C. Arduini, G. Catastini, F. Ellmers, D. Hall, A. Spallicci, A. Nobili, E. Graf, L. Iess, M. Perino, I. Pinto, M. Matteoni, J. Stocker: "Microsatellites and Space Station for Science and Technology Utilisation", *Acta Astronautica*, 39, p. 605 (1996).
- 17) L. Iess, C. Harvey, G. Vannaroni, J.P. Lebreton, M. Dobrowolny, R. Manning, P. Cerulli-Irelli, A. Onelli, F. De Venuto: "Plasma Waves in the Sheath of the TSS-1R satellite", *Geophys. Res. Lett.* 25, 4, 17 (1998).
- 18) G. Vannaroni, M. Dobrowolny, J.P. Lebreton, E. Melchioni, F. De Venuto, C.C. Harvey, L. Iess, U. Guidoni, C. Bonifazi, F. Mariani: "Current-Voltage Characteristic of the TSS-1R satellite: Comparison with Isotropic and Anisotropic Models", *Geophys. Res. Lett.*, vol. 25, n.5, 56 (1998).
- 19) B.Bertotti, A. Vecchio, L.Iess: "Search for gravitational waves from coalescing binaries with Doppler detectors", *Phys. Rev. D.* 59, 082001 (1999).
- 20) L.Iess, G.Giampieri, J.D.Anderson, B.Bertotti: "Doppler Measurement of the Solar Gravitational Deflection", *Class. Quantum Grav.* 16, 1487 (1999).
- 21) G.Vannaroni, M.Dobrowolny, F.De Venuto, L. Iess, B. Zolesi: "Large plasma density gradients observed in the low-altitude, low-latitude ionosphere observed during the TSS-1R mission", *Geophys. Res. Lett.*, 26, 2937 (1999).
- 22) J.Corsi, L.Iess: "Stability and Control of Electrodynamic Tethers", *Acta Astronautica*, 48, 491 (2001)
- 23) L.Iess, G.Boscagli: "Advanced radio science instrumentation for the mission BepiColombo to Mercury", *Planet. Space Sci.*, 49, 1597 (2001)
- 24) L.Iess, C.Bruno, C.Ulivieri, G.Vannaroni, B.Bertotti, L.Anselmo, U.Ponzi, M.Dobrowolny, F. De Venuto, M.Parisse, G.Laneve: "Satellite deorbiting by means of electrodynamic tethers: general concepts and requirements", *Acta Astronautica*, 50, 399 (2002)
- 25) L.Iess, C.Bruno, C.Ulivieri, G.Vannaroni: "Satellite deorbiting by means of electrodynamic tethers: system configuration and performances", *Acta Astronautica*, 50, 407 (2002)
- 26) M.K.Bird, M. Allison, S.W. Asmar, D.H. Atkinson, R. Dutta-Roy, P. Edenhofer, W.M. Folkner, M. Heyl, L. Iess, D. Plettemeier, R.A. Preston, G.L. Tyler and R. Wohlmuth, "Titan winds derived from frequency measurements of the Probe radio link: The Huygens Doppler Wind Experiment", *Space Sci. Rev.*, 104, 613 (2002).
- 27) B.Bertotti, L.Iess, P.Tortora: "A test of general relativity using radio links with the Cassini spacecraft", *Nature*, 425, 374-376 (2003). doi:10.1038/nature01997

- 28) J.W.Armstrong, L.Iess, P.Tortora, B.Bertotti: “Stochastic gravitational wave background: upper limits in the 10^{-6} - 10^{-3} Hz band”, *Astrophys. J.*, 599, 806-813 (2003). doi: 10.1086/379505
- 29) B.H. Foing, G.D. Racca, A. Marini, J. Heather, D. Koschny, M. Grande, J. Huovelin, H.U. Keller, A. Nathues, J.L. Josset, A. Malkki, W. Schmidt, G. Noci, R. Birkel, L. Iess, Z. Sodnik, P. McManamon: “SMART-1 mission to the Moon: Technology and science goals”, *Adv. Space Res.*, Vol. 31, Issue 11, 2323-2333 (2003). doi: 10.1016/SO273-1177(03)00541-6
- 30) P.Tortora, L.Iess, J.J.Bordi, J.E.Ekelund, D.C.Roth: “Precise Cassini navigation during solar conjunctions through multifrequency plasma calibrations” *J. Guidance, Control and Dynamics*, 27(2), 251-257 (2004). doi:10.2514/1.997
- 31) L.Somenzi, L.Iess, J.Pelaez: “Linear stability analysis of electrodynamic tethers”, *J. Guidance, Control and Dynamics*, 28(5), 843-849 (2004). doi: 10.2514/1.11822
- 32) A.J.Kliore, J.D.Anderson, J.W.Armstrong, S.W.Asmar, C.L. Hamilton, N.J.Rappaport, H.D.Wahlquist, R.Ambrosini, F.M.Flasar, R.G.French, L.Iess, E.A.Marouf, A.F.Nagy: “Cassini Radio Science”, *Space Sci. Rev.*, 115, 1 (2004). doi:10.1007/s11214-004-1436-y
- 33) S.W. Asmar, J.W.Armstrong, L.Iess, P.Tortora: “Spacecraft Doppler tracking: Noise budget and accuracy achievable in precision radio science observations”, *Radio Science*, vol. 40, RS2001 (2005). doi: 10.1029/2004RS003101
- 34) E.A. Jensen, M.K. Bird, S.W. Asmar, L. Iess, J.D. Anderson and C.T. Russell: “The Cassini solar Faraday rotation experiment” *Adv. Space Res.*, 36(8), 1587-1594 (2005). doi:10.1016/j.asr.2005.09.039
- 35) B.H. Foing, G.D. Racca, A. Marini, E. Evrard, L. Stagnaro, M. Almeida, D. Koschny, D. Frew, J. Zender, J. Heather, M. Grande, J. Huovelin, H.U. Keller, A. Nathues, J.L. Josset, A. Malkki, W. Schmidt, G. Noci, R. Birkel, L. Iess, Z. Sodnik, P. McManamon: “SMART-1 after lunar capture: first results and perspectives”, *Proc. Indian Academy of Sciences, Earth and Planetary Sciences*, Vol. 114(6), 689-697 (2005).
- 36) B.H. Foing, G.D. Racca, A. Marini, E. Evrard, L. Stagnaro, M. Almeida, D. Koschny, D. Frew, J. Zender, J. Heather, M. Grande, J. Huovelin, H.U. Keller, A. Nathues, J.L. Josset, A. Malkki, W. Schmidt, G. Noci, R. Birkel, L. Iess, Z. Sodnik, P. McManamon: “SMART-1 mission to the Moon: Status, first results and goals”, *Adv. Space Res.*, 37(1), 6-13 (2006). doi:10.1016/j.asr.2005.12.016
- 37) P. Tortora, L.Somenzi, L.Iess, R. Licata: “Small mission design for testing in-orbit an electrodynamic tether deorbiting system”, *J. Spacecraft and Rockets*, 43 (4), 883-892 (2006). doi: 10.2514/1.15359
- 38) L. Iess, N.J. Rappaport, P. Tortora, J. Lunine, J.W. Armstrong, S.W. Asmar, L. Somenzi, F. Zingoni: “Gravity field and interior of Rhea from Cassini data analysis” *Icarus*, 190, 585-593 (2007). doi: 10.1016/j.icarus.2007.03.027.
- 39) P. C. Thomas, J. W. Armstrong, S.W. Asmar, J. A. Burns, T. Denk, B. Giese, P. Helfenstein, L. Iess, T.V. Johnson, A. McEwen, L. Nicolaisen, C. Porco, N.J. Rappaport, J.

- Richardson, L. Somenzi, P. Tortora, E. P. Turtle, J. Veverka: "Hyperion's sponge-like appearance", *Nature*, 448, 50-53 (2007). doi:10.1038/nature05779.
- 40) N.J. Rappaport, L. Iess, P. Tortora, A. Anabtawi, S.W. Asmar, L. Somenzi, F. Zingoni: "Mass and interior of Enceladus from Cassini data analysis", *Icarus*, 190, 175-178 (2007). doi: 10.1016/j.icarus.2007.03.025
 - 41) N. Thomas, T. Spohn, J.P. Barriot, W. Benz, G. Beutler, U. Christensen, V. Dehant, C. Fallnich, D. Giardini, O. Groussin, K. Gunderson, E. Hauber, M. Hilchenbach, L. Iess, P. Lamy, L.-M. Lara, P. Lognonné, J.J. Lopez-Moreno, H. Michaelis, J. Oberst, D. Resendes, J.-L. Reynaud, R. Rodrigo, S. Sasaki, K. Seifert, M. Wicczorek, J. Whitby: "The BepiColombo Laser Altimeter (BELA): Concept and baseline design", *Planet. Space Sci.*, 55(10) (2007). doi: 10.1016/j.pss.2007.03.003
 - 42) L. Iess and S.W. Asmar: "Probing space-time in the solar system: from Cassini to BepiColombo", *Int. J. Mod. Phys.*, 16, 2117-2126 (2007). doi:10.1142/S0218271807011449.
 - 43) N.J. Rappaport, L. Iess, J. Wahr, J.I. Lunine, J. W. Armstrong, S.W. Asmar, P. Tortora, M. Di Benedetto, P. Racioppa: "Can Cassini detect a subsurface ocean on Titan from gravity measurements?" *Icarus*, 194 (2), 711-720 (2008). doi:10.1016/j.icarus.2007.11.024
 - 44) B.Bertotti, N.Ashby, L.Iess: "The effect of the motion of the Sun on the light-time in interplanetary relativity experiments", *Class. Quant. Grav.*, 25 (4), 045013 (2008). doi:10.1088/0264-9381/25/4/045013
 - 45) R.D. Lorenz, B. Stiles, R.L. Kirk, M. Allison, P. Persi del Marmo, L. Iess, J.I. Lunine, S.J. Ostro, S.Hensley : "Titan's Rotation Reveals an Internal Ocean and Changing Zonal Winds", *Science*, 319, 1649-1651, doi: 10.1126/science.1151639 (2008)
 - 46) R. Mackenzie, L. Iess, N.Rappaport, P. Tortora:"A Non-Hydrostatic Rhea", *Geophys. Res. Lett.*, 35, L05204 (2008). doi:10.1029/2007GL032898
 - 47) J.W. Armstrong, F. Estabrook, S. W. Asmar, L. Iess, P. Tortora: "Reducing antenna mechanical noise in precision spacecraft tracking" *Radio Sci.*, 43, RS3010(7p) (2008). doi:10.1029/2007RS003766
 - 48) B.W. Stiles, R.L. Kirk, R.D. Lorenz, S. Hensley, E. Lee, S.J. Ostro, M.D. Allison, P.S. Callahan, Y. Gim, L. Iess, P. Persi Del Marmo, G. Hamilton, W.T.K. Johnson, R.D. West: "Determining Titan's spin state from Cassini RADAR images", *Astron. J.*, 135(5), 1669-1680 (2008). doi: 10.1088/0004-6256/135/5/1669
 - 49) L.Iess, S.W. Asmar, P.Tortora: "MORE: an advanced tracking experiment for the exploration of Mercury with the mission BepiColombo" *Acta Astronautica*, 65, 666-675 (2009). doi: 10.1016/j.actaastro.2009.01.049 [paper selected for publication IAF Congress 2006, Valencia (IAC-06-C1.6.04)]
 - 50) A.C. Richie-Halford, L. Iess, P. Tortora, J. W. Armstrong, S. W. Asmar, R. Woo, S.R. Habbal, H. Morgan: "Space-time localization of inner heliospheric plasma turbulence using multiple spacecraft radio links", *Space Weather*, 7, S12003 (2009). doi:10.1029/2009SW000499

- 51) L.Iess, N.J. Rappaport, R.A. Jacobson, P. Racioppa, D.J. Stevenson, P. Tortora, J.W. Armstrong, S.W. Asmar: “Gravity Field, Shape, and Moment of Inertia of Titan”, *Science*, 327(5971), 1367-1369 (2010). doi: [10.1126/science.1182583](https://doi.org/10.1126/science.1182583)]
- 52) N. Krupp, K.K. Khurana, L. Iess, Lainey, T.A. Cassidy, M. Burger, C. Sotin, F. Neubauer: “Environments in the outer solar system”, *Space. Sci. Rev.*, 153, 11–59 (2010). DOI 10.1007/s11214-010-9653-z. [Erratum: *Space. Sci. Rev.*, 153: 61–62 (2010) DOI 10.1007/s11214-010-9666-7]
- 53) L. Iess, R.A. Jacobson, M. Ducci, D.J. Stevenson, J.I. Lunine, J.W. Armstrong, S.W. Asmar, P.Racioppa, N.J. Rappaport, P. Tortora: “The Tides of Titan”, *Science*, 337, 457-459, doi: 10.1126/science.1219631 (2012).
- 54) M. Gregnanin, B. Bertotti, M. Chersich, M. Fermi, L. Iess, L. Simone, P. Tortora, J.G. Williams: “Same Beam Interferometry as a Tool for The Investigation of The Lunar Interior”, *Planet. Space Sci.*, 74, 194-201 (2012) <http://dx.doi.org/10.1016/j.pss.2012.08.027>
- 55) A. Genova, L. Iess, M. Marabucci: “Mercury’s gravity field from the first six months of Messenger data” *Planet. Space Sci.*, 81, 55-64 (2013). doi: 10.1016/j.pss.2013.02.006
- 56) D. Hemingway, F. Nimmo, H. Zebker, L. Iess: “A rigid and weathered ice shell on Titan”, *Nature*, 500, 550 (2013) doi:10.1038/nature12400
- 57) L. Iess, M. Di Benedetto, N. James, M. Mercolino, L. Simone, P. Tortora: “Astra: Interdisciplinary study on enhancement of the end-to-end accuracy for spacecraft tracking techniques”, *Acta Astronautica*, 94, 699-707 (2014). doi: 10.1016/j.actaastro.2013.06.011
- 58) L. Iess, D.J. Stevenson, M. Parisi, D. Hemingway, R.A. Jacobson, J.I. Lunine, F. Nimmo, J.W. Armstrong, S.W. Asmar, M. Ducci, P. Tortora: “The Gravity Field and Interior Structure of Enceladus”, *Science*, 344, 78-80 (2014) doi: 10.1126/science.1250551
- 59) G. Mitri, A. Coustenis, G. Fanchini, A.G. Hayes , L. Iess, K. Khurana, J.P. Lebreton, R.M. Lopes, R.D. Lorenz, R. Meriggiola, M.L. Moriconi, R. Orosei, C. Sotin, E. Stofan, G. Tobie, T. Tokano, F. Tosi: “The exploration of Titan with an orbiter and a lake probe”, *Planet. Space Sci.*, 104, 78–92 (2014) <http://dx.doi.org/10.1016/j.pss.2014.07.009>
- 60) B. Altschul, Q.G. Bailey, L. Blanchet, K. Bongs, P. Bouyer, L. Cacciapuoti, S. Capozziello, N. Gaaloul, D. Giulini, J. Hartwig, L. Iess, P. Jetzer, A. Landragin, E. Rasel, S. Reynaud, S. Schiller, C. Schubert, F. Sorrentino, U. Sterr, J.D. Tasson, G. Tino, P. Tuckey, P. Wolf: “Quantum tests of the Einstein Equivalence Principle with the STE–QUEST space mission”, *Advances Space Res.*, 55, 501–524 (2015) <http://dx.doi.org/10.1016/j.asr.2014.07.014>
- 61) M. Biscarini, F.S. Marzano, M. Montopoli, K.D. Sanctis, L. Iess, M. Montagna, M. Mercolino, M.Lanucara: “Optimizing Data Volume Return for Ka-Band Deep Space Links Exploiting Short-Term Radiometeorological Model Forecast”, *IEEE Trans. Ant. Prop.*, 64, 1, 235-249 (2016) DOI: 10.1109/TAP.2015.2500910

- 62) M. Parisi, E. Galanti, S. Finocchiaro, L. Iess, Y. Kaspi: "Probing the depth of Jupiter's Great Red Spot with the Juno gravity experiment", *Icarus*, 267, 232–242, (2016) doi:10.1016/j.icarus.2015.12.011
- 63) P. Tortora, M. Zannoni, D. Hemingway, F. Nimmo, R.A. Jacobson, L. Iess, M. Parisi: "Rhea gravity field and interior modeling from Cassini data analysis" *Icarus*, 264, 264-273 (2016) <http://dx.doi.org/10.1016/j.icarus.2015.09.022>.
- 64) D. Durante, T. Guillot, L. Iess. "The effect of Jupiter oscillations on Juno gravity measurements." *Icarus* 282, 174-182 (2017).

Conference Proceedings (last updated: Apr. 2015)

- 1) B. Bertotti, L. Iess, P. Bonifazi : "The detection of a gravitational background radiation with Doppler tracking of two spacecraft", Proceedings of the 4th Marcel Grossmann Meeting on General Relativity, Rome, 1985, R. Ruffini Editor, North-Holland, Amsterdam (1986).
- 2) M. Dobrowolny, L. Iess : "Model of the interaction of a hollow cathode with the ionosphere", Proceedings of the 2nd International Conference on Tethers in Space, Venice, 1987, p. 206, L. Guerriero and I. Bekey Editors, Editrice Compositori, Bologna (1988).
- 3) G. Vannaroni, C. Cosmovici, J. McCoy, C. Bonifazi, M. Dobrowolny, U. Guidoni, L. Iess, L. Scandurra: "Experimental characterisation of hollow-cathode plasma sources at Frascati", Proceedings of the 2nd International Conference on Tethers in Space, Venice, 1987, p. 254, L. Guerriero and I. Bekey Editors, Editrice Compositori, Bologna (1988).
- 4) P. Bonifazi, B. Bertotti, J.P. Brenkle, G. Comoretto, T. Horton, L. Iess, A. Messeri, D. Stagnitto: "Differential Doppler tracking of interplanetary spacecraft", Proceedings of the International Workshop on Gravitational Wave Signal Analysis and Processing, Amalfi, 1988, I. Pinto Editor, Atti Univ. Salerno, Salerno (1996).
- 5) G. Comoretto, L. Iess, B. Bertotti, G. Grueff, J.P. Brenkle, T. Horton: "Doppler measurements of an interplanetary spacecraft with a VLBI antenna", Proceedings of the 8th National Meeting of General Relativity and Gravitation, Cavalese, 1988 - M. Cerdonio, R. Cianci, M. Francaviglia, M. Toller Editors, World Scientific, Singapore (1989).
- 6) L. Iess: "The ULYSSES gravitational wave experiment", Atti X Convegno della Societa' Italiana di Relativita' e Fisica della Gravitazione, Bardonecchia, Sept. 1992, World Scientific Publ. Co. (1994).
- 7) P.L. Bender, N. Ashby, I. Ciufolini, L. Iess: "Mercury Relativity Orbiter Mission", ESA Conference on Future Fundamental Physics Missions and Enabling Technologies, El Escorial, Apr. 5-7, 1994.
- 8) L. Iess, C. Arduini: "Attitude determination of spacecraft ULYSSES with precision Doppler tracking" Proceedings 2nd ESA Conference on Spacecraft Guidance, Navigation and Control Systems, Noordwijk, Apr. 11-15 1994, ESA-WPP-071 (1994).

- 9) L. Iess, B. Bertotti, R. Ambrosini, J.W. Armstrong, S.W. Asmar, J.P. Brenkle, G. Comoretto, G. Giampieri, A. Messeri, A. Vecchio, H.D. Wahlquist: "Search for quasi-periodic gravitational waves from coalescing binaries with the spacecraft ULYSSES", atti della "First Edoardo Amaldi Conference on Gravitational Wave Experiments", Frascati, 14-17 June 1994, ed. E.Coccia, G.Pizzella e F.Ronga, p. 64, World Scientific (1995).
- 10) L.Iess and J.W. Armstrong: "Spacecraft Doppler Tracking", in "Gravitational Waves: Sources and Detectors", atti della First VIRGO Conference on Gravitational Waves, Cascina (PI), 19-23 Mar. 1996, ed. I. Ciufolini e F. Fidecaro, p. 323, World Scientific (1997).
- 11) B.Bertotti, N.Ashby, J.D.Anderson, J.W.Armstrong, N. Ashby, P.L. Bender, I. Ciufolini, L.Iess, X. Wu: "Relativity Tests on a Mercury Orbiter Mission", COSPAR General Assembly, Symposium on Fundamental Physics in Space, Birmingham (UK), July 1996.
- 12) Bird, M.K., M. Allison, S.W. Asmar, D.H. Atkinson, R. Dutta-Roy, P. Edenhofer, W.M. Folkner, M. Heyl, L. Iess, D. Plettemeier, R.A. Preston, G.L. Tyler and R. Wohlmuth: "Rubidium Ultra-Stable Oscillators at Titan: The Huygens Doppler Wind Experiment", in: Proc. Workshop on the Scientific Applications of Clocks in Space, L. Maleki (ed.), [JPL Publ. 97-15], 211-220, 1997.
- 13) J.W. Armstrong, B. Bertotti, F.B. Estabrook, L. Iess, H.D. Wahlquist: "Low-frequency Gravitational Wave Experiments", in "General Relativity and Gravitational Physics", atti del XII Convegno della Societa' Italiana di Relativita' e Fisica della Gravitazione, Roma, 23-27 Sept. 1996, ed. M. Bassan, V. Ferrari, M. Francaviglia, F. Fucito, I. Modena, p. 439, World Scientific (1997).
- 14) A.Vecchio, B.Bertotti, L.Iess: "Coalescing Binaries and Doppler Experiments", atti della "Second Edoardo Amaldi Conference on Gravitational Wave Experiments", Ginevra, 3-7 July 1997, ed. E.Coccia ed al., World Scientific (1998).
- 15) *J.W. Armstrong, B. Bertotti, F.B. Estabrook, L. Iess, H.D. Wahlquist: "The Galileo/Mars Observer/Ulysses Coincidence Experiment" atti della "Second Edoardo Amaldi Conference on Gravitational Wave Experiments", Ginevra, 3-7 July 1997, ed. E.Coccia ed al., World Scientific (1998).
- 16) L. Iess, C. Bruno, C. Ulivieri, G. Vannaroni, B. Bertotti, L. Anselmo, U. Ponzi, M. Dobrowolny, F. De Venuto, M. Parisse, G. Laneve: "Satellite deorbiting by means of electrodynamic tethers: general concepts and requirements", 49th International Astronautical Congress (IAF), Sept. 28 - Oct. 2, 1998 Melbourne, paper IAF-98-S.6.05.
- 17) L. Iess, C. Bruno, C. Ulivieri, G. Vannaroni: "Satellite deorbiting by means of electrodynamic tethers: system configuration and performances", 49th International Astronautical Congress (IAF), Sept. 28 - Oct. 2, 1998 Melbourne, paper IAF-98-S.6.06.
- 18) G.Vannaroni, M.Dobrowolny, F.De Venuto, L.Iess: "Current collection by rapidly moving bodies in the ionosphere: TSS-1R results", Spacecraft Charging Technology Conference, Hanscom AFB, Ma., USA, 2-6 Nov. 1998.
- 19) J.Corsi, L.Iess: "Stability and Control of Electrodynamic Tethers", 51th Congress of the International Astronautical Federation, Rio de Janeiro, Ott. 2000 (paper IAF-00-S.6.06).

- 20) C.Bruno, L.Iess, L.Schirone, R.Licata, L.Bussolino: "EDOARD: A Tethered Device for Efficient Electrodynamic De-Orbiting of LEO Spacecraft", Space Technology Applications International Forum 2001 (STAIF-2001), Albuquerque, NM, USA, Feb. 2001.
- 21) C.Bruno, L.Anselmo, L.Iess, L.Schirone, R.Licata, L.Bussolino: "EDOARD: an Electrodynamic Tether Device for Efficient Spacecraft De-Orbiting", 3rd European Conference on Space Debris, Darmstadt (ESOC), 19-21 Mar. 2001.
- 22) L.Iess: "Space Tethers: an Overview", 7th Spacecraft Charging Technology Conference, Noordwijk, Olanda, 21-26 Apr. 2001 (in "A course on spacecraft charging").
- 23) L.Iess, G.Boscagli: "Radio Science Experiment for the Mission BepiColombo to Mercury", 2nd ESA Workshop on Tracking Telemetry and Command Systems for Space Application, Noordwijk, Olanda, Ott. 2001.
- 24) S.Abbate, J.W.Armstrong, S.W.Asmar, E.Barbinis, B.Bertotti, D.U.Fleischman, M.S.Gatti, G.L.Goltz, R.G.Herrera, L.Iess, K.J.Lee, T.L.Ray, M.Tinto, P.Tortora, H.D.Wahlquist: "The Cassini Gravitational Wave Experiment" SPIE meeting "Astronomical Telescopes and Instrumentation", Hawaii, 22-28 Aug. 2002.
- 25) P.Tortora, L.Iess, J.E.Ekelund: "Accurate navigation of deep space probes using multifrequency link: the Cassini breakthrough during solar conjunction experiments", paper IAC-02-Q.2.03, 53th International Astronautical Congress, Houston, 10-19 Oct. 2002.
- 26) L. Iess, P. Tortora, J. D. Anderson, S. W. Asmar, E.Barbinis, B.Bertotti, D.U.Fleischman, M.S.Gatti, G.L.Goltz, R.G.Herrera, E.Lau, K.Oudrhiri: "The Cassini Solar Conjunction Experiment: a New Test of General Relativity", 2003 IEEE Aerospace Conference, Big Sky, Montana, 8-15 Mar. 2003.
- 27) P. Tortora, L. Iess, R.G.Herrera: "The Cassini multifrequency link performance during 2002 Solar Conjunction", 2003 IEEE Aerospace Conference, Big Sky, Montana, 8-15 Mar. 2003.
- 28) L.Somenzi, L.Iess, J.Pelàez: "Linear stability analysis of flexible electrodynamic tethers", Atti del XVII Congresso Nazionale AIDAA, Roma, Sept. 2003, p.305.
- 29) P.Tortora, L. Iess, J.J.Bordi: "High accuracy interplanetary orbit determination using multi-frequency radio links", Atti del XVII Congresso Nazionale AIDAA, Roma, Sept. 2003, p.641.
- 30) L.Iess, M.Mercolino, P.Persi, P.Tortora: "The determination of the rotational state of solar system bodies from orbit", Atti del XVII Congresso Nazionale AIDAA, Roma, 15-19 Sept. 2003, p.653.
- 31) L.Iess, L.Bussolino: "EDOARD: A tether device for de-orbiting LEO spacecraft", Atti del XVII Congresso Nazionale AIDAA, Roma, 15-19 Sept. 2003, p.1121.

- 32) P.Tortora, L.Iess, J.J.Bordi, J.E.Ekelund, D.C.Roth: "Cassini navigation during solar conjunctions via removal of solar plasma noise", paper AAS 03-200 0840, 2003 AAS/AIAA Space Flight Mechanics Meeting, Ponce, Puerto Rico, 9-13 Feb. 2003.
- 33) L.Somenzi, L.Iess, J.Pelaez: "Linear stability analysis of flexible electrodynamic tethers" AAS Astrodynamics Specialist Conference, Big Sky, Montana, 3-7 Aug. 2003
- 37) L.Iess, S.Asmar, M.Mercolino, P.McManamon, G.B.Palmerini: "Preliminary Results from the tracking of SMART-1 in Ka-band", Tracking, Telemetry and Command Systems for Space Applications, TTC 2004, 7-9 September 2004, ESOC, Darmstadt
- 38) L.Iess, A.Ardito, S.W.Asmar, G.W.Bury, D.V.Johnston: "Precision Doppler tracking of the lunar probe SMART-1 in X and Ka band", XVIII Congresso Nazionale AIDAA, 19-22 Sept. 2005, Volterra (PI)
- 39) L.Iess, G.Rapino, N.Rappaport, L.Somenzi, P.Tortora: "The determination of Iapetus mass from Doppler tracking of the Cassini spacecraft", XVIII Congresso Nazionale AIDAA, 19-22 Sept. 2005, Volterra (PI)
- 40) P.Persi del Marmo, L.Iess, G.Picardi: "The measurement of Titan obliquity by means of SAR imaging", XVIII Congresso Nazionale AIDAA, 19-22 Sept. 2005, Volterra (PI)
- 41) L.Iess, A.Milani, P.Tortora: "MORE: the radio science experiment of BepiColombo, the ESA mission to Mercury", XVIII Congresso Nazionale AIDAA, 19-22 Sept. 2005, Volterra (PI).
- 42) S.G. Turyshev, Dittus, H., Laemmerzahl, C., Theil, S., Ertmer, W., Rasel, E., Foerstner, R., Johann, U., Klioner, S., Soffel, M., Dachwald, B., Seboldt, W., Perlick, V., Sandford, M.C.W., Bingham, R., Kent, B., Sumner, T.J., Bertolami, O., Páramos, J., Christophe, B., Foulon, B., Touboul, P., Bouyer, P., Damour, T., Salomon, C., Reynaud, S., Brillet, A., Bondu, F., Mangin, J-F., Samain, E., Bertotti, B., Iess, L., Erd, C., Grenouilleau, J.C., Izzo, D., Rathke, A., Asmar, S.W., Colavita, M., Gursel, Y., Hemmati, H., Shao, M., Williams, J.G., Nordtvedt Jr., K.L., Shapiro, I., Reasenberg, R., Drever, R.W.P., Degnan, J., Plowman, J.E., Hellings, R., Murphy Jr., T.W., "Fundamental physics with the laser astrometric test of relativity" 39th ESLAB Symposium on Trend In Space Science and Cosmic Vision 2020, 19-21 April 2005, Noordwijk, The Netherlands, ESA SP-588, 11 (2005).
- 43) L. Iess, R. Abelló, A. Ardito, G. Comoretto, M. Lanucara R. Maddè, M. Mercolino, G. Rapino, M. Sensi, P. Tortora: "The European Δ DOR correlator", 57th International Astronautical Congress, Valencia, 2-6 Oct. 2006 (IAC-06-B3.1.05),
- 44) L.Iess, S.W. Asmar, P.Tortora: "MORE: an advanced tracking experiment for the exploration of Mercury with the mission BepiColombo" 57th International Astronautical Congress, Valencia, 2-6 Oct. 2006 (IAC-06-C1.6.04, selected for publ. in Acta Astronautica, listed also among refereed papers).
- 45) N. Sanchez-Ortiz, M. Bello Mora, L. Martin, R. Jehn, P. Tortora, L. Iess: "Simulation of the Cassini solar conjunction experiment with GRETCHEN" 57th International Astronautical Congress, Valencia, 2-6 Oct. 2006 (IAC-06-C1.P.5.C1).

- 46) L. Iess, R. Abelló, A. Ardito, G. Comoretto, M. Lanucara R. Maddè, M. Mercolino, G. Rapino, P. Tortora: “The software correlator for ESA Δ DOR”, presentation at the 4th RadioNet Engineering Forum Workshop: “Next Generation Correlators for Radio Astronomy and Geodesy”, Groningen, 27-29 June 2006.
- 47) L. Iess, J.W. Armstrong, S.W. Asmar, M. Di Benedetto, A. Graziani, R. Mackenzie, P. Racioppa, N. Rappaport, P. Tortora: “The determination of Titan gravity field from Doppler tracking of the Cassini spacecraft”, Proceedings of the XX International Symposium on Space Flight Dynamics (ISSFD), September 24-28, 2007, Annapolis, MD, USA
- 48) P. Tortora, J. W. Armstrong, S. W. Asmar, L. Iess, N. J. Rappaport, A. Ardito e L. Somenzi, “Cassini’s Determination of the Gravity Fields of the Saturnian Satellites”, Paper IAC-07- A3.I.A.29, 58th International Astronautical Congress, September 24-28, 2007, Hyderabad, India
- 49) N. Rappaport, R. Jacobson, L. Iess, P. Racioppa, J.W. Armstrong, S.W. Asmar, D.J. Stevenson, P. Tortora, M. Di Benedetto, A. Graziani, R. Meriggiola: “The gravity field of Titan from Four Cassini Flybys”, EOS Trans. AGU, Fall Meeting Suppl., Abstract P21A-1343 (2008).
- 50) M. Fermi, P. Bender, B. Bertotti, M. Gregnanin, L. Iess, L. Simone: “Investigation of the lunar interior with a microwave interferometer”, paper B01-0000-08, 37th COSPAR Scientific Assembly 2008.
- 51) A. Graziani, L. Iess, P. Racioppa, P. Tortora: “Comparison of a GPS-based and water vapor radiometer-based Earth troposphere calibration systems during Cassini’s radio science experiments in the Saturn system”, ESA Workshop on Radiowave Propagation Models, Tools and Data for Space Systems, Noordwijk (ESTEC), Olanda, 13 Feb. 2008
- 52) P. Persi del Marmo, L. Iess, G. Picardi, R. Seu: “The measurement of Titan’s rotational state by means of SAR imaging”, 2008 IEEE Radar Conference, Roma 26-30 May 2008
- 53) E. Rossini, G. Gallinaro, D. Giunta, G. Palmerini, L. Schirone, L. Iess: “The cross-link technique for deep space missions” 2009 IEEE International Frequency Control Symposium Joint with the 22nd European Frequency and Time Forum 2009, Article number 5168171, p. 211-215
- 54) M. Di Benedetto, L. Iess, D.C. Roth: “ The non-gravitational accelerations of the Cassini spacecraft”, 21th International Symposium on Space Flight Dynamics, Toulouse, Sept. 28 – Oct. 2, 2009.
- 55) G. Mitri, L. Iess, N. J. Rappaport, “Interior structure of Titan”, paper 2019, 40th Lunar and Planetary Science Conference, The Woodlands, TX, USA, 23-27 March 2009.
- 56) M. Marabucci, L. Iess , A. Genova: “Numerical simulations of the radio science experiment of the mission BepiColombo to Mercury”, paper AAS 10-190, 20th AAS/AIAA Conference on Space Flight Mechanics, San Diego, 15-17 Feb. 2010.

- 57) S. Finocchiaro, L. Iess: "Numerical simulations of the gravity science experiment of the Juno mission to Jupiter", paper AAS 10-193, 20th AAS/AIAA Conference on Space Flight Mechanics, San Diego, 15-17 Feb. 2010.
- 58) M. Marabucci, A. Genova, L. Iess: "Mercury's gravity field and orbit determination from the radio science experiment of the mission BepiColombo", EPSC Abstracts Vol. 5, EPSC2010-519, 2010, European Planetary Science Congress, Roma 19-24 Sept. 2010.
- 59) S. Finocchiaro, P. Racioppa, L. Iess: "Numerical simulations of the EJSM/Laplace gravity experiment", EPSC Abstracts Vol. 5, EPSC2010-776, 2010, European Planetary Science Congress, Roma 19-24 Sept. 2010.
- 60) P. Racioppa, S. Finocchiaro, L. Iess, P. Tortora: "The determination of the gravity field and eccentricity tides of Callisto", EPSC Abstracts Vol. 5, EPSC2010-779, 2010, European Planetary Science Congress, Roma 19-24 Sept. 2010.
- 61) M. Ducci, L. Iess, B. Giese, R. Mackenzie: "Rhea: a reorientation event detected from gravity measurements of the spacecraft Cassini", EPSC Abstracts Vol. 5, EPSC2010-756, 2010, European Planetary Science Congress, Roma 19-24 Sept. 2010.
- 62) S.E. Centuori, F.E. Aleman, M. Di Benedetto, L. Iess, A. Graziani, A. Palli, N. Pierdicca, R. Prieto-Cerdeira, P. Racioppa, D. Sanchez, P. Tortora: "RC-SIM: radiocomm signals for retrieval of planetary geophysical parameters", paper IAC-11-A3.5.6, 62nd International Astronautical Congress, Cape Town, South Africa, 3-7 Oct. 2011.
- 63) M. Ducci, L. Iess, J. W. Armstrong, S. W. Asmar, R. A. Jacobson, J. I. Lunine, P. Racioppa, N. J. Rappaport, D. J. Stevenson, P. Tortora: "The Geodesy of the Main Saturnian Satellites from Range Rate Measurements of the Cassini Spacecraft", Paper 2200, 43th Lunar and Planetary Science Conference, The Woodlands, TX, 19-23 March 2012.
- 64) L. Iess, C. Colamarino, A. Corbelli, M. Di Benedetto, V. Fabbri, A. Graziani, R. Hunt, N. James, M. Lanucara, M. Marabucci, G. Mariotti, M. Micolino, P. Racioppa, L. Simone, P. Tortora, M. Westcott, M. Zannoni: "ASTRA: Interdisciplinary study on enhancement of the end-to-end accuracy for spacecraft tracking techniques", paper IAC-12.B2.1.10, 63rd International Astronautical Congress, Naples, Italy, 1-5 Oct. 2012.
- 65) M. Gregnanin, S. Giuliani, L. Iess: "Same beam interferometry for the analysis of the internal structure of celestial bodies", paper IAC-12-A3.3A.21, 63rd International Astronautical Congress, Naples, Italy, 1-5 Oct. 2012.
- 66) F. Barbaglio, A. Ardito, L. Iess, R. Maddè, M. Micolino, M. Lanucara, G. Rapino: "ESA ΔDOR enhancement: agencies interoperability, wideband and low-SNR functionality", paper IAC-12-B2.3.8, 63rd International Astronautical Congress, Naples, Italy, 1-5 Oct. 2012.
- 67) R. Meriggiola, L. Iess: "Determination of the planetary rotation by imaging from orbit", paper IAC-12-A3.5.20, 63rd International Astronautical Congress, Naples, Italy, 1-5 Oct. 2012.
- 68) L. Iess, M. Di Benedetto, M. Marabucci, P. Racioppa: "Improved Doppler tracking systems for deep space navigation", 23rd International Symposium on Space Flight Dynamics

(ISSFD), Pasadena, CA, 29 Oct.- 2 Nov. 2012,
https://issfd.jpl.nasa.gov/home/assets/papers/ISSFD23_OD1_6.pdf

- 69) F. Barbaglio, J.W. Armstrong, L. Iess: “Precise doppler measurements for navigation and planetary geodesy using low gain antennas: test result from Cassini“, 23rd International Symposium on Space Flight Dynamics (ISSFD), Pasadena, CA, 29 Oct.- 2 Nov. 2012,
https://issfd.jpl.nasa.gov/home/assets/papers/ISSFD23_OD1_4.pdf
- 70) M. Parisi, S. Finocchiaro, L. Iess: “Multi-arc and batch-sequential filters for the orbit determination of ESA’s JUICE mission“, 23rd International Symposium on Space Flight Dynamics (ISSFD), Pasadena, CA, 29 Oct.- 2 Nov. 2012,
https://issfd.jpl.nasa.gov/home/assets/papers/ISSFD23_OD2_3.pdf
- 71) M. Gregnanin, L. Iess, W. Hao, M. Mercolino, L. Simone: “ Same Beam Interferometry with a lander network on Mars”, TTC 2013, 6th ESA International Workshop on Tracking, Telemetry and Command Systems for Space Applications, ESA-ESOC, 10-13 Sept. 2013, paper 07B-0940 (2013).
- 72) L. Iess, F. Budnik, C. Colamarino, A. Corbelli, M. Di Benedetto, V. Fabbri, A. Graziani, R. Hunt, N. James, M. Lanucara, R. Maddè, M. Marabucci, G. Mariotti, M. Mercolino, P. Racioppa, L. Simone, P. Tortora, M. Westcott, M. Zannoni: “Improving tracking systems for deep space navigation”, TTC 2013, 6th ESA International Workshop on Tracking, Telemetry and Command Systems for Space Applications, ESA-ESOC, 10-13 Sept. 2013, paper 08B-1050 (2013).
- 73) F. Barbaglio, A. Ardito, L. Iess, M. Lanucara, R. Maddè, M. Mercolino, G. Rapino: “The ESA Δ DOR system upgrade”, TTC 2013, 6th ESA International Workshop on Tracking, Telemetry and Command Systems for Space Applications, ESA-ESOC, 10-13 Sept. 2013, paper 07B-0920 (2013).
- 74) S. Ciarcia, L. Simone, D. Gelfusa, P. Colucci, G. De Angelis, F. Argentieri, L. Iess, R. Formaro: “MORE AND JUNO Ka-band transponder design, performance, qualification and in-flight validation”, TTC 2013, 6th ESA International Workshop on Tracking, Telemetry and Command Systems for Space Applications, ESA-ESOC, 10-13 Sept. 2013, paper 03B-1020 (2013).
- 75) F.S. Marzano, M. Biscarini, L. Iess, M. Gregnanin, M. Parisi, M. Montopoli, K. De Sanctis, S. Di Fabio, L. Bernardini, M. Montagna, E. Montagnon: “Investigating Ka-band science data transfer for bepi-Colombo mission by using radiometeorological numerical models”, 6th ESA International Workshop on Tracking, Telemetry and Command Systems for Space Applications, ESA-ESOC, 10-13 Sept. 2013, Session 9B, paper 2836973 (2013).
- 76) M. Biscarini, F.S. Marzano, L. Iess, M. Montopoli, K.D. Sanctis, S. Di Fabio, L. Bernardini, M. Gregnanin, M. Parisi, M. Montagna, M. Mercolino, M.Lanucara: “Evaluation of deep space Ka-band data transfer using radiometeorological forecast models”, 8th European Conference on Antennas and Propagation (EuCAP), 6-11 April 2014, pp. 499 - 503 (2014), DOI:10.1109/EuCAP.2014.6901801
- 77) M. Biscarini, F.S. Marzano, M. Montopoli, L. Iess, K.D. Sanctis, S. Di Fabio, M. Montagna, M. Mercolino, M.Lanucara: “Weather effects mitigation at Ka band by using

radiometeorological model forecast in deep space downlinks", 9th European Conference on Antennas and Propagation (EuCAP), 13-17 April 2015, (2015).

Conference Abstracts and Workshops (last updated: Dec. 2015)

- 1) B. Bertotti, L. Iess : "Correlation between two spacecraft in the Doppler detection of a gravitational background radiation", General Relativity 10, Padova, 1983.
- 2) L. Iess, B. Bertotti, P. Bonifazi, G. Comoretto : "Differential Doppler tracking of interplanetary spacecraft", General Relativity 11, Stockholm (1986)
- 3) L.Iess, M. Dobrowolny, H.A. Shah : "Riscaldamento del vento solare per dissipazione di onde di Alfvén", LXXII Congresso della SIF, Padova (1986).
- 4) R.Agresti, P. Bonifazi, L. Iess, B. Bertotti: "Calibrazione degli effetti di propagazione sul segnale radio di un satellite interplanetario", LXXII congresso della SIF, Padova (1986).
- 5) M.Dobrowolny, L.Iess : "The interaction of a hollow cathode with the ionosphere", URSI National Radio Science Meeting, Boulder (1988).
- 6) A.J. Kliore, N. Borderies, H.D. Wahlquist, J.D. Anderson, B.Bertotti, R.G. French, L. Iess, E. Marouf, A.F. Nagy: "Radio science investigations for the CASSINI mission", EGS Meeting, Wiesbaden, Apr. 1991.
- 7) B.Bertotti, L.Iess, H.D. Wahlquist: "Searching for gravitational waves with ULYSSES" AGU Spring meeting (1991).
- 8) L.Iess, R. Ambrosini, B. Bertotti, G.Comoretto, G. Giampieri, A.Messeri: "Risultati preliminari di 'Doppler Tracking' durante la prima opposizione della sonda ULYSSES", atti del "III Workshop sull'utilizzo interdisciplinare delle antenne di Medicina e Noto", Bologna, 30 May 1991.
- 9) R. Ambrosini, G. Comoretto, L. Iess, A. Messeri: "Precise Doppler tracking from the Medicina VLBI station" European Time and Frequency Forum, ESTEC, Noordwijk (Olanda), March 1992.
- 10) B.Bertotti, R. Ambrosini, S.W. Asmar, J.P. Brenkle, G. Comoretto, G. Giampieri, L. Iess, Y. Koyama, A. Messeri, A. Vecchio, H.D.Wahlquist: "Preliminary results of the ULYSSES Gravitational Wave Experiment", GR13, Cordoba (Argentina), July 1992.
- 11) M. Dobrowolny, E. Melchioni, L. Iess, U. Guidoni, M. Maggi, C.Harvey, R.Manning, J.P. Lebreton, S. Ekholm: "Preliminary results from the RETE experiment in the TSS-1 mission", AGU Fall meeting, S.Francisco, Dec. 7-11 (1992).
- 12) E. Melchioni, M. Dobrowolny, L. Iess, C. Harvey, R. Manning, J.P.Lebreton: "Wave and charging phenomena on TSS-1 satellite as measured by the RETE experiment", 18th General Assembly of the EGS, Wiesbaden, May 3-7 (1993).

- 13) Iess, R. Ambrosini, B. Bertotti, G.Comoretto, A. Vecchio: "Gli esperimenti di radio science con il satellite ULYSSES" atti del "IV Workshop sull'utilizzo interdisciplinare delle antenne di Medicina e Noto", Firenze, Oct. 1994.
- 14) R. Ambrosini, B. Bertotti, G.Comoretto, L.Iess: "Upgrade a 34 GHz per il tracking Doppler di CASSINI" atti del "IV Workshop sull'utilizzo interdisciplinare delle antenne di Medicina e Noto", Firenze, Oct. 1994.
- 15) J.W.Armstrong, B. Bertotti, F.B.Estabrook, L.Iess, H.D.Wahlquist: "The GALILEO / MARS OBSERVER / ULYSSES Low Frequency Coincidence Experiment" 12th Pacific Coast Gravity Meeting, Salt Lake City, 21-23 Apr. 1996
- 16) J.P. Lebreton, A. Butler, R. Cerulli, Y. De Conchy, M. Dobrowolny, U. Guidoni, C. Harvey, L. Iess, M. Maggi, R. Manning, E. Melchioni, A. Pedersen, A. Toni, G. Vannaroni, F. Wouters: "RETE Experiment Measurements During the TSS-1R Mission", American Geophysical Union Spring Meeting, Baltimore (USA), May 1996.
- 17) C.C. Harvey, G. Vannaroni, J.P. Lebreton, V. Fiala, L.Iess, M. Dobrowolny, F. De Venuto, A. Onelli, E. Melchioni: "RETE Wave Receiver: Electric and Magnetic Wave Activity in the Satellite Environment during the Deployed Phase of the TSS-1R Mission", American Geophysical Union Fall Meeting, San Francisco Dec. 15-19, 1996, Eos Transactions (Suppl.), 77, F550 (1996).
- 18) L.Iess: "Doppler Measurements of The Solar Gravitational Deflection", Cassini-Huygens International Meeting, Bologna, 19-21 Nov. 1996.
- 19) M.F. Marcucci, S. Orsini, F. Mariani, G. Vannaroni, F. De Venuto, M. Candidi, L.Iess: "Unexpected Spin-phased Magnetic Field Enhancements in Front of the TSS-1R Satellite", American Geophysical Union Fall Meeting, San Francisco Dec. 8-12, 1997, EOS Transactions (Suppl.), 78, F523 (1997).
- 20) L.Iess, J.W.Armstrong, B. Bertotti, F.B.Estabrook, H.D.Wahlquist: "Search for gravitational wave bursts by simultaneous Doppler tracking of three interplanetary spacecraft" GR15 Conference, 16-21 Dec. 1997, Pune (India)
- 21) L.Febo, L.Iess, B.Bertotti: "Search for Gravitational Waves from Coalescing Binaries with the Ulysses Spacecraft", 4th Amaldi Conference, Perth, 8-13 July 2001.
- 22) L.Iess, P.Tortora, B.Bertotti: "The measurement of the solar gravitational deflection with the Cassini spacecraft", Atti del XVII Congresso Nazionale AIDAA, Roma, Sept. 2003.
- 23) L. Iess, S. Asmar, J.L. Josset, M. Mercolino, P. McManamon, G. B. Palmerini: "The radio science experiment of the SMART-1 mission", Paper EGU04-A-07340, Annual Conference of the European Geosciences Union, Nice, Apr. 2004.
- 24) "The measurement of the rotational state of planetary bodies from orbiting spacecraft", Paper EGU04-07341, Annual Conference of the European Geosciences Union, Nice, Apr. 2004.

- 25) L.Iess, N.Rappaport, P.Tortora, G.Rapino, L.Somenzi: “The determination of Iapetus mass from Doppler tracking of the Cassini spacecraft”, Geophysical Research Abstracts, Vol. 7, 11176, 2005 SRef-ID: 1607-7962/gra/EGU05-A-11176
- 26) N.J.Rappaport, L.Iess, P.Tortora, J.D.Anderson, L.Somenzi: “Gravity science in the Saturnian system: the masses of Phoebe, Iapetus, Dione and Enceladus”, DPS 2005, Oxford, Sept. 2005.
- 27) N.J. Rappaport, L. Iess, P. Tortora, J.I., Lunine, J.W. Armstrong, S.W. Asmar, L. Somenzi, F. Zingoni: “Interiors of Rhea and Enceladus”, AGU Joint Assembly, Baltimore (MD), 23-26 May 2006. Paper P33A-05.
- 28) N.J. Rappaport, J.W. Armstrong, S.W. Asmar, L. Iess, P. Tortora, L. Somenzi, F. Zingoni: “Gravity Fields and Interiors of the Saturnian Satellites”, Paper [59-PS-A0725](#), Asia Oceania Geosciences Society 3rd Annual Meeting, Singapore, 10-14 July 2006 (invited).
- 29) N.J. Rappaport, L. Iess, P. Tortora, J.I., J.W. Armstrong, S.W. Asmar, L. Somenzi, F. Zingoni: “The Saturnian satellites: gravity science”, paper [COSPAR2006-A-01581](#), COSPAR, Pechino, 13-16 July 2006.
- 30) P. Tortora, J.W. Armstrong, S.W. Asmar, L. Iess, N.J. Rappaport, L. Somenzi, F. Zingoni: “Preliminary Determination of Titan’s Gravity Field with the Spacecraft Cassini”, Paper 56.01 - 38th Meeting of the AAS Division for Planetary Sciences 8-13 October 2006, Pasadena, CA.
- 31) E. Flamini, A. Coradini, A. Adriani, G. Bellucci, F. Ferri, L. Iess, R. Somma, G. Filacchione, J. I. Lunine, M. Cosi, L. Tommasi: “Italian Scientific Participation to the Juno Mission to Jupiter”, Paper 45.03 - 38th Meeting of the AAS Division for Planetary Sciences 8-13 October 2006, Pasadena, CA.
- 32) S. Asmar, L. Iess, The MORE Team: “Plans for Investigating Mercury Interior Structure with the BepiColombo Radio Science Experiment” Paper 56.01 - 38th Meeting of the AAS Division for Planetary Sciences 8-13 October 2006, Pasadena, CA.
- 33) L. Iess, J.D. Anderson, J.W. Armstrong, S.W. Asmar, N.J. Rappaport, P. Tortora, L. Somenzi, F. Zingoni: “Gravity fields of the Saturnian satellites” Geophysical Research Abstracts, Vol. 8, 05029, 2006 SRef-ID: 1607-7962/gra/EGU06-A-05029
- 34) L. Iess, J.D. Anderson, J.W. Armstrong, S.W. Asmar, N.J. Rappaport, P. Tortora, L. Somenzi, F. Zingoni: “Gravity fields of the Saturnian satellites” Geophysical Research Abstracts, Vol. 8, 05029, 2006 SRef-ID: 1607-7962/gra/EGU06-A-05029.
- 35) L. Iess, A. Ardito, S.W. Asmar, G.W. Bury, P. McManamon: “Doppler measurements and frequency stability of the X/Ka radio link: results from the RSIS experiment” SMART-1 Technology Workshop, ESTEC, 16-17 Jan. 2007.
- 36) P. Persi del Marmo, L. Iess, G. Picardi, R. Seu, B. Bertotti: “The determination of Titan’s rotational state from Cassini SAR images”, EOS Trans. AGU, 88(52), Fall Meet. Suppl., Abstract P21D-08 (2007)

- 37) N. Rappaport, L. Iess, P. Tortora, J. Wahr, J. Lunine, R. Mackenzie, J.W. Armstrong, S.W. Asmar, A. Ardito, M. Di Benedetto, A. Graziani, P. Racioppa: "The Gravity Science Analysis of Cassini Flybys T11 and T22 and Future Work", EOS Trans. AGU, 88(52), Fall Meet. Suppl., Abstract P23B-1367 (2007)
- 38) P. Persi del Marmo, L. Iess, G. Picardi, R. Seu, B. Bertotti: "The determination of Titan's rotational state from Cassini SAR images", 39 DPS Meeting (AAS), Orlando (FL), 7-12 Oct. 2007, paper 63-06
- 39) Sami Asmar, N. Rappaport, L. Iess, J. Wahr, J. Lunine, J. W. Armstrong, P. Tortora, M. Di Benedetto, P. Racioppa, R. MacKenzie, R. Jacobson: "The search for Titan's ocean", 39 DPS Meeting (AAS), Orlando (FL), 7-12 Oct. 2007, paper 63-09.
- 40) L.Iess, B.Bertotti, P.Tortora: "The Cassini Superior Conjunction Experiment", First European Workshop On Solar System Dynamics And Ephemerides, ESOC 21-22 June 2007 (invited).
- 41) L. Iess: "Testing gravity theories with interplanetary spacecraft", Second International Workshop Q2C "From Quantum to Cosmos: Space-based Research on Fundamental Physics and Quantum Technologies", Brema, 10-13 June 2007 (invited).
- 42) L. Iess, A. Milani, G. Tommei: "Precise orbitography of BepiColombo and the determination of Mercury's gravity field", Geophysical Research Abstracts, Vol. 10, EGU2008-A-10998, 2008 EGU General Assembly 2008
- 43) R. Mackenzie, L. Iess, N. Rappaport, P. Tortora: "The gravity field of Rhea", Geophysical Research Abstracts, Vol. 10, EGU2008-A-10785, 2008.
- 44) L. Iess, J.W. Armstrong, S.W. Asmar, A. Graziani, R. Mackenzie, P. Racioppa, N. Rappaport, P. Tortora: "The gravity field of Titan from the first three Cassini flybys", Geophysical Research Abstracts, Vol. 10, EGU2008-A-10849, 2008
- 45) L.Iess, A.Milani, G.Tommei: "Precise orbitography of BepiColombo and the determination of Mercury's gravity field" European Geophysical Union General Assembly 2008, Geophysical Research Abstracts, Vol. 10, EGU2008-A-10998 (2008).
- 46) S.Asmar, L.Iess, V.Dehant, A.Milani, P.Tortora, The Mercury Orbiter Radioscience Experiment (MORE) Team: "Planned BepiColombo Radio Science Investigations" 37 COSPAR General Assembly, Montreal, 13-20 July 2008, paper B07-0026-08, p.405.
- 47) S. Asmar, A. Ardito, J. W. Armstrong, L. Iess, N. J. Rappaport, P. Tortora: "Saturn's Gravity Field: Results from Two Flybys and Proximal Orbits Simulations", Paper 19.01 - 40th Meeting of the AAS Division for Planetary Sciences Ithaca, NY, 10-15 October 2008
- 48) M.Fermi, M. Chersich, P. Bender, B.Bertotti, M.Gregnanin, Marco; L.Iess, L.Simone: "Investigation of the lunar interior with a microwave interferometer" 37 COSPAR General Assembly, Montreal, 13-20 July 2008, paper B07-0026-08, p.405
- 49) Iess and the RSI Team: "A high-performance Ka-band transponder for EJSM/Laplace Radio Science Instrument (RSI), EPSC Abstracts, Vol. 4, EPSC2009-xxxx, European Planetary Science Congress, Potsdam, 13-18 Sept. 2009.

- 50) L. Iess, J.W. Armstrong, S.W. Asmar, M. Ducci, R. Jacobson, N. Rappaport, D.J. Stevenson, P. Tortora: "The Gravity Field of Enceladus", paper P23C-02, 2010 AGU Fall Meeting, session P05: Eyes on Enceladus, S. Francisco, 13-17 Dec. 2010.
- 51) P. Tortora, J.W. Armstrong, S.W. Asmar, L. Iess, R.A. Jacobson, N.J. Rappaport, M. Zannoni: "Determination of Saturn's Gravity Field from four Cassini Dedicated Flybys in the Prime and Equinox Missions", EGU2010-6111-2, EGU General Assembly, Vienna, 2-7 May 2010.
- 52) L. Iess, N.J. Rappaport, R.A. Jacobson, P. Racioppa, D.J. Stevenson, P. Tortora, J.W. Armstrong, S.W. Asmar: "Gravity Measurements at Titan", EGU2010-6111-2, EGU General Assembly, Vienna, 2-7 May 2010.
- 53) L. Iess, J.W. Armstrong, S.W. Asmar, M. Ducci, R. Jacobson, N. Rappaport, D.J. Stevenson, P. Tortora: "The Gravity Field of Enceladus", EOS Trans. AGU, Fall Meeting Suppl., Abstract P23C-02 (2010).
- 54) E. Marouf, P. Tortora, S. Asmar, W. Folkner, D. Hinson, L. Iess, I. Linscott, R. Lorenz, I. Mueller-Wodarg: "Potential Spacecraft-to-Spacecraft Radio Observations with EJSM: Wave of the Future?", EOS Trans. AGU, Fall Meeting Suppl., Abstract P54B-03 (2010).
- 55) P. Tortora, J.W. Armstrong, S.W. Asmar, L. Iess, R.A. Jacobson, N.J. Rappaport, M. Zannoni: "Determination of Saturn's Gravity Field from four Cassini Dedicated Flybys in the Prime and Equinox Missions", Geophysical Research Abstracts Vol. 12, EGU2010-6111-2, 2010 EGU General Assembly, Wien, 3-7 May, 2010.
- 56) L. Iess, N.J. Rappaport, R.A. Jacobson, P. Racioppa, D.J. Stevenson, P. Tortora, J.W. Armstrong, S.W. Asmar: "Gravity Measurements at Titan", Geophysical Research Abstracts Vol. 12, EGU2010-11037, 2010 EGU General Assembly, Wien, 3-7 May, 2010.
- 57) L. Iess: "Deep-Space Navigation as a Tool to Probe the Laws of Gravity", XIX Congresso SIGRAV, Pisa, Scuola Normale Superiore, 27 Sept. -1 Oct. 2010 (invited).
- 58) R. Meriggiola, L. Iess: "The rotation of Titan", X Congresso di Scienze Planetarie, Bormio, 17-21 Jan. 2011.
- 59) M. Ducci, L. Iess, B. Giese, R. Mackenzie: "The effect of Tirawa impact basin on the determination of Rhea's gravity field", X Congresso di Scienze Planetarie, Bormio, 17-21 Jan. 2011.
- 60) P. Racioppa, M. Ducci, L. Iess: "Titan gravity and tides", X Congresso di Scienze Planetarie, Bormio, 17-21 Jan. 2011.
- 61) A. Genova, M. Marabucci, L. Iess: "Mercury radio science experiment of the mission BepiColombo", X Congresso di Scienze Planetarie, Bormio, 17-21 Jan. 2011.
- 62) S. Finocchiaro, L. Iess: "The determination of Jupiter's angular momentum with the Juno spacecraft", X Congresso di Scienze Planetarie, Bormio, 17-21 Jan. 2011.

- 63) L. Iess, R. Jacobson, M. Ducci, D.J. Stevenson, J.W. Armstrong, S.W. Asmar, N. Rappaport, P. Tortora: "Titan's Eccentricity Tides", paper P33F-03, 2011 AGU Fall Meeting, session P03: Titan: An Earth-Like World II, S. Francisco, 5-9 Dec. 2011.
- 64) L. Iess, R. Jacobson, M. Ducci, D.J. Stevenson, J.W. Armstrong, S.W. Asmar, N. Rappaport, P. Tortora: "Titan's Eccentricity Tides", paper P33F-03, 2011 AGU Fall Meeting, session P03: Titan: An Earth-Like World II, S. Francisco, 5-9 Dec. 2011.
- 65) R. Meriggiola, L. Iess, B. W. Stiles: "The rotation of Titan by the latest Cassini data", paper P33E-1802, 2011 AGU Fall Meeting, session P33: Titan: An Earth-Like World III, S. Francisco, 5-9 Dec. 2011.
- 66) S. Finocchiaro, L. Iess, W.M. Folkner, S.W. Asmar: "The Determination of Jupiter's Angular Momentum from the Lense-Thirring Precession of the Juno Spacecraft", paper P41B-1620, 2011 AGU Fall Meeting, session P41: Planetary Geodesy I, S. Francisco, 5-9 Dec. 2011.
- 67) L. Iess: "The Gravity Fields of the Saturnian Satellites", paper P44B-04, 2011 AGU Fall Meeting, session P44: Planetary Geodesy II, S. Francisco, 5-9 Dec. 2011 (invited).
- 68) M. Parisi, S. Finocchiaro, L. Iess: "Gravity Science with the JUICE Mission", Geophysical Research Abstracts Vol. 14, EGU2012-11912-2 (2012), EGU General Assembly, Wien, 22-27 Apr. 2012.
- 69) M. Marabucci, A. Genova, L. Iess: "Mercury's Gravity Field from BepiColombo MORE Experiment", Geophysical Research Abstracts Vol. 14, EGU2012-11449 (2012), EGU General Assembly, Wien, 22-27 Apr. 2012.
- 70) L. Iess, S. Giuliani, V. Dehant: "Mars' rotational state and solid tides by radio interferometry of a network of landers", Geophysical Research Abstracts Vol. 14, EGU2012-12664 (2012), EGU General Assembly, Wien, 22-27 Apr. 2012.
- 71) M. Ducci, S.W. Asmar, J.W. Armstrong, L. Iess, R.A. Jacobson, P. Tortora: "The gravity field and interior structure of Dione inferred from Cassini radio-tracking data", EPSC Abstracts, Vol. 7 EPSC2012-598 (2012), European Planetary Science Congress 2012, Madrid, 23 – 28 September 2012.
- 72) M. Yseboodt, V. Dehant, L. Iess, M. Mitrovic, M. Gregnanin: "Same Beam Interferometry on Mars for obtaining information on the interior", EPSC Abstracts, Vol. 7 EPSC2012-522 (2012), European Planetary Science Congress 2012, Madrid, 23 – 28 September 2012.
- 73) M. Gregnanin, L. Iess: "Librations and Tides of the Moon from Same Beam Interferometry of a Lander Network", EPSC Abstracts, Vol. 7 EPSC2012-722-1 (2012), European Planetary Science Congress 2012, Madrid, 23 – 28 September 2012.
- 74) R. Meriggiola, L. Iess: "A new rotational model of Titan from Cassini SAR data", EPSC Abstracts, Vol. 7 EPSC2012-593 (2012), European Planetary Science Congress 2012, Madrid, 23 – 28 September 2012

- 75) D. Hemingway, F. Nimmo, L. Iess: "Enceladus' internal structure inferred from analysis of *Cassini*-derived gravity and topography", paper P53E-03, 2013 AGU Fall Meeting, session "Enceladus: Little Moon, Big Possibilities II", S. Francisco, 9-13 Dec. 2013.
- 76) L. Iess, M. Parisi, M. Ducci, R. A. Jacobson, J. W. Armstrong, S. W. Asmar, J. I. Lunine, D. J. Stevenson, P. Tortora: "The Gravity Field of Enceladus from the three Cassini flybys", abstract P53B-1859, 2013 AGU Fall Meeting, session "Enceladus: Little Moon, Big Possibilities I, S. Francisco, 9-13 Dec. 2013 (poster).
- 77) D.J. Stevenson, L. Iess, M. Parisi, M. Ducci, S.W. Asmar: "The Interpretation of Enceladus Gravity", paper P53E-01, 2013 AGU Fall Meeting, session "Enceladus: Little Moon, Big Possibilities II", S. Francisco, 9-13 Dec. 2013 (invited).
- 78) L. Iess, S. Finocchiaro, P. Racioppa: "The determination of Jupiter and Saturn gravity fields from radio tracking of the Juno and Cassini spacecraft", paper P11B-01, Shape, Internal Structure, Gravity, and Winds of Jupiter and Saturn I, 2013 AGU Fall Meeting, S. Francisco, 9-13 Dec. 2013 (invited).
- 79) E. Galanti, Y. Kaspi, S. Finocchiaro, L. Iess: "An improved method for estimation of Jupiter's gravity field using the Juno expected measurements, a trajectory estimation model, and an adjoint based thermal wind model", paper P21C-1746, Shape, Internal Structure, Gravity, and Winds of Jupiter and Saturn I, 2013 AGU Fall Meeting, S. Francisco, 9-13 Dec. 2013 (poster).
- 80) L. Iess and the 3GM Team: "3GM: Gravity and Geophysics of Jupiter and the Galilean Moons", EPSC Abstracts Vol. 8, EPSC2013-491, 2013, European Planetary Science Congress, London, UK, 19-24 Sept. 2013.
- 81) L. Iess, S.W. Asmar, A. Anabtawi: "The Geodesy of the Outer Solar System Bodies from Precise Spacecraft Tracking", abstract P31A-3969, 2014 AGU Fall Meeting, S. Francisco, 14-19 Dec. 2014 (invited).
- 82) M. Parisi, L. Iess, M. Ducci: "The determination of Enceladus' gravity field from Cassini radio science data", Geophysical Research Abstracts, Vol. 16, EGU2014-3075, 2014 (EGU General Assembly, Wien, Apr. 27-May 21, 2014).
- 83) L. Iess: "The interior structure of Enceladus from Cassini gravity measurements" Geophysical Research Abstracts, Vol. 17, EGU2015-15239, EGU General Assembly, Wien, 12-17 Apr. 2015 [invited, Union Symposium "What's Inside"].
- 84) L. Imperi, M. Jr Mariani, L. Iess: "BepiColombo's geodesy and relativity experiments from an extended mission" Geophysical Research Abstracts, Vol. 17, EGU2015-13332-1, EGU General Assembly, Wien, 12-17 Apr. 2015.
- 85) D. Titov, S. Barabash, L. Bruzzone, M. Dougherty, C. Erd, L. Fletcher, P. Gare, R. Gladstone, O. Grasset, L. Gurvits, P. Hartogh, H. Hussmann, L. Iess, R. Jaumann, Y. Langevin, P. Palumbo, G. Piccioni, G. Sarri, J-E. Wahlund, O. Witasse: "Jupiter Icy Moons Explorer: mission status after the Definition Phase", Geophysical Research Abstracts, Vol. 17, EGU2015-13284, EGU General Assembly, Wien, 12-17 Apr. 2015.

- 86) M. Biscarini, F.S. Marzano, M. Montopoli, L. Iess, K.D. Sanctis, S. Di Fabio, M. Montagna, M. Mercolino, M.Lanucara: “Coupling radio propagation and weather forecast models to maximize Ka-band channel transmission rate for interplanetary missions”, Radio Science Meeting (Joint with AP-S Symposium), 2015 USNC-URSI (2015) DOI: 10.1109/USNC-URSI.2015.7303540
- 87) D. Durante, L. Iess: “The detection of Jupiter normal modes with gravity measurements of the mission Juno”, EPSC Abstracts, Vol. 10, EPSC2015-476, European Planetary Science Congress (2015).
- 88) M. Parisi, L. Iess, S. Finocchiaro, E. Galanti, Y. Kaspi: “The possibility of inferring the depth of Jupiter's Great Red Spot with the Juno gravity experiment”, 2015 AGU Fall Meeting, Poster P41B-2069, Session P41B “Jove You Inside Out: Giant Planet Interiors, Atmospheres, Aurorae, and Ionospheres II Posters”, San Francisco, 13-18 Dec. 2015.
- 89) S.W. Asmar, R. Park, J.W. Armstrong, D. Buccino, W. Folkner, L. Iess, A. Konopliv, J. Lazio: “Enabling Planetary Geodesy With the Deep Space Network”, 2015 AGU Fall Meeting, P34A-01, Session P41B “Planetary Geodesy I” San Francisco, 13-18 Dec. 2015 [Invited].
- 90) L. Iess: “The interior of Enceladus from gravity and topography”, 2015 AGU Fall Meeting, Abstract P21B-07, Session P21B “Evolutions, Interactions, and Origins of Outer Planet Satellites I”, San Francisco, 13-18 Dec. 2015 [invited].

Other publications

- 1) L. Iess: voce "Sonda spaziale" della "Piccola Treccani", Istituto dell' Enciclopedia Italiana (1996).
- 2) Bird, M.K., M. Heyl, M. Allison, S.W. Asmar, D.H. Atkinson, P. Edenhofer, D. Plettemeier, R. Wohlmuth, L. Iess and G.L. Tyler: "The Huygens Doppler Wind Experiment", ESA SP-1177, 139 162, ESTEC, Noordwijk, Netherlands (1997).
- 3) L. Iess: aggiornamento della voce "Sonda spaziale" della "Piccola Treccani", Istituto dell' Enciclopedia Italiana (2001).
- 4) J.W. Armstrong, F.B. Estabrook, S.W. Asmar, L. Iess, P. Tortora: “Reducing antenna mechanical noise in precision Doppler tracking”, Progress Report IPN 42-165 of the NASA-JPL Interplanetary Network, Pasadena, 15 May 2006.
- 5) N. Krupp, K.K. Khurana, L. Iess, V. Lainey, T.A. Cassidy, M. Burger, C. Sotin, F. Neubauer: “Environments in the Outer Solar SystemSpace”, Space Science Series of the International Space Science Institute (Bern, Switzerland) Volume 35: “Satellites of the Outer Solar System” O. Grasset, M. Blanc, A. Coustenis, W.B. Durham, H. Hussmann, R.T. Pappalardo, D. Turrini (Eds.) ISBN 978-1-4419-7438-9, published in December 2010, Reprinted from Space Science Reviews Volume 153, No. 1-4, 2010 [also in Publications]

Mission or Experiment Proposals (in response to ESA, NASA and ASI AO) – Reports (Phase A and Contracts)

(Not cited in under “Funding” or “Participation in Space Projects and Missions”)

- 1) "LAGEOS 3 Scientific Feasibility Study", ASI-NASA Joint Study, PI dott. I.Ciufolini (1989).
- 2) "Microsatellite Science Utilisation and Space Station" European Space Agency Contract Report by Alenia Spazio, OHB-Systems and Consultancy Team, Alenia Spazio Internal Report SD-RP-AI-0168 (1995). [accepted]
- 3) "Un satellite a filo per propulsione elettrodinamica", L.Iess e G.Vannaroni (coordinatori), in risposta al bando ASI "Idee per missioni scientifiche su piccoli satelliti" (1997).
- 4) "Coronal Science, Relativistic Gravity, X/Ka-Band Radio Technology Validation on Deep Space One", J.W.Armstrong (PI), J.D.Anderson, S.Asmar, B.Bertotti, F.B.Estabrook, S.Habbal, L.Iess, R.Woo, in risposta all' Announcement of Opportunity della NASA AO97-OSS-01 "Science Team Members for the NM DS1 Mission" (1997).
- 5) "LARES - Laser Relativity Satellite for the study of the Earth gravitational field and general relativity measurements", I.Ciufolini (PI), Phase A Study Report, ASI AO on "Idee per missioni scientifiche su piccoli satelliti" (1998).
- 6) "Mercury Cornerstone - Interim Report", G.D.Racca, R.Grard, A.Balogh, J.Brueckner, L.Iess, Y.Langevin, A.Milani, N.Thomas et al., ESA Internal Memorandum ESA/PF/1462.97/GR, Aug. 1997.
- 7) "Validation of the technologies needed for deorbiting systems based on electrodynamic tethers (DSET)", G.Vannaroni (PI), L.Iess et al., in response to the ASI AO "Proposte di utilizzazione tecnologica della stazione spaziale" (1998).
- 8) "OMEGA - A proposal to the National Aeronautics and Space Administration - Office of Space Sciences - for MIDEX", R.W.Hellings (PI), in response to the Announcement of Opportunity NASA AO98-OSS-03 (1998).
- 9) Proposal DS-TIM-PO-0001 “Novel Tracking Techniques For Esa’s Future Deep Space Missions” in response to ESA ITT No: AO/1-4341/03/D/SW ESA/IPC(2003)11, Technical Coordinator Wolfgang Schäfer, TimeTech GmbH, Stuttgart.
- 10) DonQuijote: “Phase A of a Near Earth Object (NEO) Mission: Don Quijote” ESA ITT AO 1-4956/05/F/VS (2005) [Prime Contractor: AlcatelAlenia Space][selected]
- 11) “MOONTWIN – A network of landers for lunar exploration” in response to ESA Call for Ideas for NEXT Exploration Mission, PI P. Lognonnè, Scientific /technology area: Planetary Geophysics, Radio-Astronomy/EDLS, RDV, Long Life Planetary package.
- 12) Synchro: “Novel Time Synchronisation Techniques for Deep Space Probes”, ESA ITT AO/1-5209/07/NL/HE [Prime Contractor: Space Engineering; 2007][selected]

Internal Reports

- 1) L. Iess, M. Dobrowolny, B. Bertotti : "Radio scintillation at large elongation angles : contribution of waves vs. discontinuities", internal report IFSI-82-2 (1982).
- 2) B. Bertotti, L. Iess : "Correlation between two spacecraft in the Doppler detection of a gravitational background radiation", internal report IFSI-83-7 (1983).
- 3) M. Dobrowolny, L. Iess : "Interplanetary plasma turbulence and the Doppler detection of a gravitational background radiation" internal report IFSI-85-1 (1985).
- 4) H.A. Shah, L. Iess, M. Dobrowolny : "A model for proton heating in the solar wind", IFSI-85-9 (1985).
- 5) R. Agresti, L. Iess, P. Bonifazi : "Media calibrations of the Doppler signal for a gravitational wave experiment", IFSI-86-13 (1986).
- 6) R. Agresti, P. Bonifazi, L. Iess, G.B. Trager : "Generation and reduction of the data for the Ulysses gravitational wave experiment", IFSI-87-20 (1987).
- 7) G. Vannaroni, C.B. Cosmovici, U. Guidoni, L. Iess, L. Scandurra: "Interaction of a hollow cathode source with an ionospheric plasma", IFSI-88-10 (1988).
- 8) M. Dobrowolny, L. Iess: "RETE telemetry layout", IFSI-90-8 (1990).
- 9) B. Bertotti, L. Iess: "The rotation of LAGEOS", IFSI-90-10 (1990).
- 10) A. Messeri, L. Iess: "Archival tracking data file (ATDF) and REGRES file: decoding and data reduction", IFSI-90-30 (1990).
- 11) A. Messeri, L. Iess: "Precision Open Loop phase and frequency measurements for the Doppler detection of gravitational waves in space", IFSI-90-31 (1990).
- 12) G. Comoretto, L. Iess, R. Cerulli-Irelli: "A Digital Tone Extractor for the Huygens-Cassini Doppler wind experiment", Technical Report 15/1990, Osservatorio Astrofisico di Arcetri (1990).
- 13) B. Bertotti, R. Ambrosini, S.W. Asmar, J.P. Brenkle, G. Comoretto, G. Giampieri, L. Iess, A. Messeri, A. Vecchio, H.D. Wahlquist: "ULYSSES' Gravitational Wave Experiment: report on the first opposition", IFSI-91-25 (1991).
- 14) R. Ambrosini, G. Comoretto, G. Giampieri, L. Iess, A. Messeri, G. Maccaferri, A. Vecchio: "Manuale d'uso per l'inseguimento Doppler di sonde interplanetarie con la parabola VLBI di Medicina", IRA-156-92 (1992).
- 15) A. Butler, M. Dobrowolny, S. Ekholm, U. Guidoni, C. Harvey, L. Iess, J.P. Lebreton, M. Maggi, E. Melchioni, G. Vannaroni: "RETE experiment Langmuir probe data analysis for the TSS-1 mission", IFSI-94-2 (1994).

- 16) "Mercury Cornerstone - Interim Report", G.D.Racca, R.Grard, A.Balogh, J.Brueckner, L.Iess, Y.Langevin, A.Milani, N.Thomas et al, ESA Internal Memorandum ESA/PF/1462.97/GR, (1997).
- 17) G.Vannaroni, M.Dobrowolny, F.De Venuto, L.Iess, B.Zolesi: "Large plasma density gradients observed in the low-altitude, low-latitude ionosphere during the TSS-1R mission", IFSI-99-3 (1999).
- 18) L.Iess, D.C.Roth: "New DSS25 station coordinates estimated from Cassini GWE1 data", IOM 312.B/04-03, 17/3/2003 (2003).
- 19) A. Ardito, L. Iess, L. Somenzi, P. Tortora: "The Effects Of Titan's Atmosphere On The Estimation Of The Quadrupole Field In T22", DIAA internal note, 3 Nov. 2006.
- 20) N. Rappaport, M. di Benedetto, L. Iess, P. Racioppa, and J. Wahr: "RSS Determination of Titan Love's Number", JPL Interoffice Memorandum IOM-343-07001, 23 Feb. 2007.

Invited Talks and Seminars

- 1) L.Iess : "Precision Doppler navigation techniques for the detection of gravitational waves in space", Course on "Spacecraft Flight Control System", Istituto CNUCE-CNR , Pisa, 10-12 Dec. 1985.
- 2) L.Iess : "Esperimenti di onde gravitazionali con sonde spaziali", Meeting on "Onde gravitazionali da collassi stellari: previsioni teoriche ed esperimenti italiani", INFN - Laboratori Nazionali di Legnaro, 20-21 May 1991.
- 3) L.Iess: "The ULYSSES gravitational wave experiment", X Convegno della Societa' Italiana di Relativita' e Fisica della Gravitazione, Bardonecchia, Sett. 1992
- 4) L.Iess: "Search for quasi-periodic gravitational waves from coalescing binaries with the spacecraft ULYSSES", First Edoardo Amaldi Conference on Gravitational Wave Experiments, Frascati, 14-17 June 1994.
- 5) L. Iess: "The Cassini Solar Conjunction Experiment", Jet Propulsion Laboratory, Dec. 5, 1995 (seminar).
- 6) L.Iess: "Spacecraft Doppler Tracking", First VIRGO Conference on Gravitational Waves, Cascina (Pisa), Italy, 19-23 Mar. 1996.
- 7) L.Iess: "Doppler Measurements of The Solar Gravitational Deflection", Cassini-Huygens International Meeting, Bologna, 19-21 Nov. 1996.
- 8) L.Iess: "Gravitational Waves and Doppler Experiments in the Cassini Mission", workshop "Review of Fundamental Physics Activities in ESA and in ASI", Roma, 14-15 May 1997.

- 9) L.Iess: "Fundamental Physics on Planetary and Astrometric Missions", Workshop "Fundamental Physics in Space", ASI-ESA, Roma, 19 Feb. 1999.
- 10) L.Iess: "Space Tethers", 7th Spacecraft Charging Technology Conference, Noordwijk, The Netherlands, 21-26 Apr. 2001 (in "A course on spacecraft charging").
- 11) L.Iess: "Radio science instrumentation for the mission BepiColombo to Mercury", General Assembly of the European Geophysical Society, Nice, May 2001.
- 12) L.Iess: "The Cassini Solar Conjunction Experiment: A Test of General Relativity Using Precision Doppler Tracking of an Interplanetary Spacecraft", XXII Texas Symposium on Relativistic Astrophysics, Stanford (USA), December 13-17, 2004.
- 13) L.Iess: "Testing General Relativity with interplanetary spacecraft tracking" INFN, Florence, Dec. 5, 2005 (seminar).
- 14) L.Iess: "Testing General Relativity with Interplanetary Spacecraft", International Workshop "Advances In Precision Tests And Experimental Gravitation In Space", Galileo Galilei Institute, Arcetri, Firenze (Italy), September 28-30, 2006
- 15) L.Iess: "Testing gravity theories with interplanetary spacecraft", Second International Workshop Q2C "From Quantum to Cosmos: Space-based Research on Fundamental Physics and Quantum Technologies", Bremen, 10-13 June 2007.
- 16) L.Iess: "The Cassini Superior Conjunction Experiment", First European Workshop On Solar System Dynamics and Ephemerides, ESOC, Darmstadt, 21-22 June 2007
- 17) L.Iess: "The gravity fields of the solar system satellites", ISSI/Europlanet workshop on "Exchange processes in icy moons", Bern, Nov. 17-21, 2008.
- 18) L. Iess: "Probing gravity by means of deep space probes" Institut für Experimentalphysik, Heinrich-Heine-Universität Düsseldorf, 26 June 2008 (seminar).
- 19) L.Iess: "Tests of Relativity in Radio Band", IAU Symposium 261 "Relativity in Fundamental Astronomy, Dynamics, Reference Frames, and Data Analysis", Virginia Beach (USA), April 29, 2009.
- 20) L. Iess: "Gravity tests in the solar system", VIII SIGRAV School ("Gravity: Where Do We Stand?"), Centro A. Volta, Villa d'Olmo, Como, 11-15 May 2009.
- 21) L. Iess: "The rotation of Titan", CelmeC V, Fifth International Meeting on Celestial Mechanics, S. Martino al Cimino, Italy, 6-12 Sept. 2009
- 22) L. Iess: "Deep-space navigation as a tool to probe the laws of gravity" XIX Convegno SIGRAV, Pisa, Scuola Normale Superiore, Sept. 27- Oct. 1, 2010.
- 23) L. Iess: "Deep-space navigation: a tool to investigate the laws of gravity", seminar at Institute de Hautes Etudes Scientifiques, Bur-sur-Yvette, 13 Jan. 2011.
- 24) L. Iess: "The Gravity Fields of the Saturnian Satellites", 2011 AGU Fall Meeting (Session P44B Planetary Geodesy II", San Francisco, 8 Dec. 2011).

- 25) L. Iess: “The tides of Titan”, 2012 AGU Fall Meeting (Session P23F “Titan: A Dynamic World”, San Francisco, 4 Dec. 2012).
- 26) L. Iess: “The Geysers, Lakes and Oceans of the Saturnian Moons”, Dip. di Fisica and INFN, Florence, Jan. 22, 2013 (seminar).
- 27) L. Iess: “Oceans, Geysers, Water Diapirs: A Peek through the Surface of the Saturnian Moons from Gravity Measurements of the Spacecraft Cassini”, ESTEC, Noordwijk, The Netherlands, May 24, 2013 (seminar).
- 28) L. Iess: “A Course on Deep Space Navigation Systems and Radio Science”, Beijing Institute of Tracking and Telecommunications Technology, Beijing, China, Jan. 29-31, 2013:
 1. Deep Space Navigation Systems: Where do we stand?
 2. The European Delta-DOR correlator
 3. The mission Bepicolombo
 4. The scientific use of Deep Space Tracking Systems
 5. Radio science in deep space missions
- 29) L. Iess: “Gravity Field and Tides of Titan”, International Symposium on Planetary Sciences (IAPS2013), July 1-7, 2013, Shanghai, China.
- 30) L. Iess, S. Finocchiaro, P. Racioppa: “The determination of Jupiter and Saturn gravity fields from radio tracking of the Juno and Cassini spacecraft”, paper P11B-01, Shape, Internal Structure, Gravity, and Winds of Jupiter and Saturn I, 2013 AGU Fall Meeting, S. Francisco, 9-13 Dec. 2013.
- 31) L. Iess: “Trends and Goals in Deep Space Navigation Systems”, Beijing Research Institute of Telemetry, June 11, 2014 (seminar).
- 32) L. Iess: “Trends and Opportunities in Radio Science: The Scientific Use of Deep Space Tracking Systems”, Beijing Research Institute of Telemetry, June 12, 2014 (seminar).
- 33) L. Iess, S.W. Asmar, A. Anabtawi: “The Geodesy of the Outer Solar System Bodies from Precise Spacecraft Tracking”, abstract P31A-3969, 2014 AGU Fall Meeting, S. Francisco, 14-19 Dec. 2014.
- 34) L. Iess: “The interior structure of Enceladus from Cassini gravity measurements”, 2015 EGU General Assembly (Union Session 4 “What is Inside? Planetary Interiors as Viewed From Space” Vienna, 17 Apr. 2015).
- 35) L. Iess: “Clocks in Space: Uses and Limitations”, ISSI/HISPAC Workshop on High Performance Clocks, Bern, 30 Nov. – 4 Dec. 2015
- 36) L. Iess: “The interior of Enceladus from gravity and topography”, 2015 AGU Fall Meeting, Abstract P21B-07, Session P21B “Evolutions, Interactions, and Origins of Outer Planet Satellites I”, San Francisco, 13-18 Dec. 2015

