

Wolfgang E. Ernst

Plenary and Invited Lectures

- 1 Mixed-metal Nanoparticles – Core-shell Structures, Phase Transitions and Alloying, Wolfgang E. Ernst and Andreas W. Hauser, Seventh International Conference "Dynamics of Systems on the Nanoscale" (DySoN 2023), Prague, Czech Republic, 24 – 26 April 2023 (**invited**), https://www.dyson-conference.org/sites/default/files/DySoN2023_3rd_Announcement.pdf .
- 2 Electron-phonon coupling at topological insulator surfaces from helium atom scattering experiments, Anton Tamtögl, Giorgio Benedek, and Wolfgang E. Ernst, The XXVth International Symposium on the Jahn-Teller Effect and Related Phenomena (JT 2023), 14 – 18 May 2023, held online via zoom (**invited**), <https://jahnteller2023-yorku.ca/programme.html#oralppt> .
- 3 Phase Transitions and Alloying of Mixed-Metallic Nanoparticles, Wolfgang E. Ernst, Florian Lackner, Daniel Knez, Ferdinand Hofer, Andreas W. Hauser, 31st Annual Meeting of the Austrian Physical Society, Leoben, Austria, 26 – 30 September 2022 (**invited**), <https://oepg2022.unileoben.ac.at/>
- 4 Relaxation and charge transfer dynamics after electronic excitation of atoms and molecules in cluster environments, Markus Koch, Florian Lackner, Andreas Hauser, and Wolfgang E. Ernst, Dynamics of electrons in atomic and molecular nanoclusters, 81st course of the International School of Solid State Physics, Erice, Sicily, Italy, 25 – 31 August 2022 (**invited**), <http://physics.usc.edu/deamn22/>
- 5 Tailored Nanoparticles Prepared in Superfluid Helium Droplets, Wolfgang E. Ernst, Chemistry and Physics at Low Temperatures (CPLT 2020), Visegrad, Hungary, 5 – 10 July 2020 (**invited**), 4 - 9 July 2022 . <http://cplt2020.elte.hu/>
- 6 Mixed metal clusters - core-shell structures, phase transitions, and nano alloying, Wolfgang E. Ernst, Andreas W. Hauser, Florian Lackner, Daniel Knez, Ferdinand Hofer, *Atoms, Molecules and Clusters in Motion* conference (AMOC 2022), Helsinki, Finland and on a cruise ship between Helsinki and Stockholm, June 6 - 10, 2022 (**invited**), <https://www2.helsinki.fi/en/conferences/amoc-2022>
- 7 Synthesis of clusters and nanoparticles in superfluid helium droplets, Wolfgang E. Ernst, 14th International Conference on Quantum Fluid Clusters, Erice, Sicily, Italy, 18 – 23 April 2022 (**invited**), <https://sites.google.com/usc.edu/qfc-2022/lecturers>
- 8 Core-shell clusters synthesized in helium droplets - structure, phase transitions, and optical resonances, Wolfgang E. Ernst, Third International Meeting on Nanoalloys (IMN 2021), virtual conference held by KU Leuven, Belgium, 14 – 16 April 2021 (**invited**), <https://nanoalloys-irn.cnrs.fr/imm-2021/>
- 9 Metals in helium droplets – from atoms to cluster aggregation, Wolfgang E. Ernst, **International Virtual Symposium** in memory of Prof. Evgeny Gordon, September 8 - 9, 2020, online organization by Iouli Gordon, Atomic and Molecular Physics Division Center for Astrophysics, Harvard & Smithsonian, Cambridge, MA, USA (**invited**), <https://conferences.icp.ac.ru/gordon2020/> .

- 10 Surface dynamics of topological materials from helium atom scattering experiments, Anton Tamtögl and Wolfgang E. Ernst, Fourth International Workshop on Scattering of Atoms and Molecules on Surfaces (SAMS-4), Madrid, Spain, 24 – 27 September 2019 **(invited)**.
- 11 Rydberg series of alkali atoms on helium droplets: electrons in a Coulomb potential shielded by a superfluid dielectric, Wolfgang E. Ernst, AnalytiX 2019, Singapore, 12 – 14 April 2019 **(invited)**.
- 12 Core-Shell Nanoparticles for Plasmonics and Catalysis, Wolfgang E. Ernst, AnalytiX 2019, Singapore, 12 – 14 April 2019 **(invited)**.
- 13 Core-Shell Nanoparticles for Plasmonics and Catalysis, Alexander Schiffmann, Martin Schnedlitz, Maximilian Lasserus, Roman Messner, Florian Lackner, Andreas W. Hauser, Daniel Knez, Ferdinand Hofer, and Wolfgang E. Ernst, 4th Global Congress & Expo on Materials Science and Nanoscience, Amsterdam, Netherlands, 15 – 17 October 2018 **(invited keynote lecture)**.
- 14 Core-shell nanoparticles prepared in superfluid helium droplets: structure, phase transitions, and alloy formation, A. Schiffmann, M. Schnedlitz, M. Lasserus, R. Messner, F. Lackner, R. Meyer, A. W. Hauser, D. Knez, F. Hofer, and W. E. Ernst, Fifth International Conference "Dynamics of Systems on the Nanoscale" (DySoN 2018), Potsdam, Germany, 8 – 12 October 2018 **(invited)**.
- 15 Electron-phonon coupling and charge density wave excitations from surface scattering measurements, Wolfgang E. Ernst, XXIVth International Symposium on the Jahn-Teller Effect, Santander, Spain, 24 – 29 June 2018 **(plenary)**.
- 16 Spectroscopy of doped helium nanodroplets – solvation dynamics after electronic excitation, Wolfgang E. Ernst, 3rd EU COST MOLIM (CM1405) General Meeting, Budapest, Hungary, 19 – 21 April 2018 **(invited)**.
- 17 Core-Shell Nanoparticles Prepared in Superfluid Helium Droplets: Structure and Phase Transitions Studied at Atomic Resolution, Wolfgang E. Ernst, AnalytiX 2018, Miami, FL, USA, 26 – 29 March 2018 **(invited)**.
- 18 Helium droplets as cold traps for the formation of core-shell clusters, Wolfgang E. Ernst, EU COST MOLIM Workshop on Intermolecular Interactions, Santiago de Compostela, Spain, 2 – 4 October 2017 **(invited)**.
- 19 Metal clusters and nanowires prepared in superfluid helium droplets: structure, phase transitions and alloy formation at atomic resolution, Wolfgang E. Ernst, Conference on Quantum Fluid Clusters (QFC 2017), Conference Center Obergurgl, Austria, 7 – 9 June 2017 **(invited)**.
- 20 Metallic Nanoparticles Prepared in Superfluid Helium Droplets: Structure, Phase Transitions, Alloy Formation, M. Schnedlitz, M. Lasserus, D. Knez, A. W. Hauser, F. bHofer, and W. E. Ernst, Castleman Symposium on Cluster Science, US National Academy of Science, Washington, D.C., USA, 20-21 April 2017 **(invited)**.
- 21 Alkali – Alkaline Earth Diatomics: Molecules for Ultracold Physics, Wolfgang E. Ernst, AnalytiX 2017, Fukuoka, Japan, 22-24 March 2017 **(invited)**.

- 22 Surface deposition of metal clusters and nanowires formed in superfluid helium droplets, Wolfgang E. Ernst, International Conference "Dynamics of Systems on the Nanoscale" (DySoN 2016), Bad Ems, Germany, 3-7 October 2016 **(invited)**.
- 23 Tunneling, fine and hyperfine structure in a classical Jahn-Teller system: the Na₃ ground state, Wolfgang E. Ernst, XXIIIrd International Symposium on the Jahn-Teller Effect, Tartu, Estonia, 27-31 August 2016 **(invited)**.
- 24 Alkali – Alkaline Earth Diatomics: Molecules for Ultracold Physics, F. Lackner, J. Pototschnig, A. W. Hauser, and W. E. Ernst, EU COST Action CM 1405 “Molecules in Motion (MOLIM)”, International Workshop, Helsinki, Finland, 22 - 24 August 2016 **(invited)**.
- 25 Creating Nanoparticles in Superfluid Helium Droplets, Wolfgang E. Ernst, 2nd Erwin Schrödinger Symposium: Zero Dimensional Nanostructures, Vienna, Austria, 23-25 May 2016 **(invited)**.
- 26 Formation of Metal Clusters and Nanowires in Superfluid Helium Droplets and their Surface Deposition, Wolfgang E. Ernst, XXth Symposium on Atomic, Cluster and Surface Physics (SASP2016), Davos, Switzerland, 7 – 12 February 2016 **(invited)**.
- 27 Aggregation Dynamics of Metal Dopants in Helium Nanodroplets, Wolfgang E. Ernst, 7th International Chemical Congress of Pacific Basin Societies (PACIFICHEM), Honolulu, Hawaii, USA, 15 – 20 December 2015 **(invited)**.
- 28 Solvation dynamics of metallic dopants in helium droplets, Wolfgang E. Ernst, 2015 International conference on Quantum Fluid Clusters (QFC2015), Toulouse, France, 7 – 11 June 2015 **(invited)**.
- 29 Dynamics of Molecules and Clusters in Helium Droplets, Wolfgang E. Ernst, Workshop on Novel Developments in Classical and Quantum Systems, Padua, Italy, 4-5 June, 2015 **(invited)**.
- 30 Molecular Spectroscopy and Dynamics in and on Cold Helium Droplets, Wolfgang E. Ernst, XVIIth International Workshop on Quantum Atomic and Molecular Tunneling in Solids and other Phases, Beatenberg/Interlaken, Switzerland, 31 May - 3 June 2015 **(plenary)**.
- 31 Formation of Metal Clusters and Nanowires in Superfluid Helium Droplets and their Surface Deposition, Wolfgang E. Ernst, EU CoDECS COST Action CM1002: Helium-mediated Synthesis, Soft-landing and Spectroscopy of Metal Nanoparticles on Surfaces (HeSSMe 2014), International Workshop, CSIC, Madrid, Spain, 10-11 October 2014 **(invited)**.
- 32 Dynamics of molecules and clusters in helium droplets, Wolfgang E. Ernst, XIXth Symposium on Atomic, Cluster and Surface Physics 2014 (SASP2014), Universitätszentrum Oberegurgl, Austria, 9 – 14 February, 2014 **(invited)**.
- 33 Vibrational Dynamics and Surface Structure of Semimetals from Helium Atom Scattering, Wolfgang E. Ernst, 2nd International Workshop on Scattering of Atoms and Molecules from Surfaces (SAMS-2), Potsdam, Germany, 4-7 November 2013 **(invited)**.

- 34 Cold Chemistry in Helium Droplets, Wolfgang E. Ernst, **invited keynote lecture** at the 44th WORLD CHEMISTRY CONGRESS (IUPAC), Istanbul, Turkey, 11-16 August 2013.
- 35 Cluster Aggregation, Spin Dynamics, and Cold Reactions in Doped Helium Droplets, Wolfgang E. Ernst, 32nd International Symposium on Free Radicals, Potsdam, Germany, 21 – 26 July 2013 (**invited**).
- 36 Metal atoms in helium nanodroplets – from electron spin resonance to multiphoton ionization spectroscopy, Wolfgang E. Ernst, International Conference on Quantum Fluid Clusters (QFC 2013), Regensburg, Germany, 16-19 June 2013 (**invited**).
- 37 Dynamics of molecules and clusters in superfluid helium droplets, Wolfgang E. Ernst, International Conference on Electronic Structure and Dynamics of Molecules and Clusters, Kolkata, India, 17th - 20th February, 2013 (**invited**).
- 38 Helium – from Matter Waves to Quantum Fluid Clusters, Wolfgang E. Ernst, Berlin Symposium on Surface Science: From Reciprocal to Real Space, 12 – 14 September 2012 (**invited**).
- 39 Cold Chemistry in Helium Droplets, Wolfgang E. Ernst, VIIth Workshop on Atomic and Molecular Physics, Jurata, Poland, 11 – 14 September 2012 (**invited**).
- 40 Homo- and Heteronuclear Alkali Trimers – Conical Intersections and Spin-Orbit Coupling, Wolfgang E. Ernst and Andreas W. Hauser, 21st International Symposium on the Jahn-Teller Effect, Tsukuba, Japan, 26 – 31 August 2012 (**invited**).
- 41 Spectroscopy of Doped Helium Droplets: Weakly Bound Clusters, Rydberg States, and Electron Spin Resonance, Wolfgang E. Ernst, 22nd Colloquium on High Resolution Molecular Spectroscopy, Dijon, France, 28 Aug. – 2 Sep. 2011 (**plenary lecture**).
- 42 Alkali atoms and molecules on cold helium clusters: spin relaxation due to collisional interactions, Wolfgang E. Ernst, The Fifth International Symposium "Atomic Cluster Collisions", Berlin, Germany, 20 – 25 July 2011 (**invited**).
- 43 Spectroscopy of Doped Helium Droplets – Methods and Results, Wolfgang E. Ernst, XXIV International Symposium on Molecular Beams, Bordeaux, France, 23 – 27 May 2011 (**invited**).
- 44 Jahn-Teller effect and spin-orbit coupling in heavy alkali trimers, Wolfgang E. Ernst and Andreas W. Hauser, 20th International Symposium on the Jahn-Teller Effect, Fribourg, Switzerland, 17 – 20 August 2010 (**invited**).
- 45 Electronic shell models for small alkali clusters, Wolfgang E. Ernst, Summer School on "Shell Effects in Finite Quantum Systems", Majorana Centre in Erice, Sicily, Italy, 25 – 31 July, 2010 (**invited**).
- 46 Electron spin resonance on doped helium nanodroplets, Wolfgang E. Ernst, Millikelvin Days, University of Barcelona, Spain, 15 - 16 July, 2010 (**invited**).
- 47 Molecules in cold helium droplets, Wolfgang E. Ernst, Tenth European Conference on Atoms, Molecules, and Photons (ECAMP10), Salamanca, Spain, 4-9 July 2010 (**invited**).

- 48 Surface Structure and Dynamics from Helium Atom Scattering Experiments, Wolfgang E. Ernst, 13th International Conference on Vibrations at Surface (VAS 13), Orlando, Florida, USA, 10-13 March, 2010 **(invited)**.
- 49 High-Spin Aggregates on Cold Helium Droplets: Formation, Optical Pumping, and Electron Spin Resonance, Wolfgang E. Ernst, XVIIth Symposium on Atomic, Cluster and Surface Physics 2010 (SASP2010), Universitätszentrum Obergurgl, Austria, 24 – 29 January, 2010 **(invited)**.
- 50 Coherent spin manipulation and ESR on doped helium clusters, Wolfgang E. Ernst, Clustertreffen 2009, Herzogenhorn-Schwarzwald, Germany, 4 – 9 October, 2009 **(invited)**.
- 51 Jahn-Teller effect and spin-orbit coupling in heavy alkali trimers: spectroscopic experiments and ab-initio calculations, Wolfgang E. Ernst and Andreas W. Hauser, Seventh International Conference of Computational Methods in Sciences and Engineering (ICCMSE 2009), Highlighted Symposium in Computational Spectroscopy, Rhodes, Greece, 29 September - 04 October 2009 **(invited)**.
- 52 Molecules in Cold Helium Nanodroplets: Formation of High-Spin States and Magnetic Resonance Spectroscopy, Wolfgang E. Ernst, Joint Physics, Astrophysics and Astronomy Conference 2009(ÖPG/SPS/ÖGAA), Innsbruck, Austria, 2-4 September 2009 **(plenary lecture)**.
- 53 Helium droplets as nano-cryostats for molecular spectroscopy: aggregation, state selection and electron spin resonance, Wolfgang E. Ernst, 64th International Symposium on Molecular Spectroscopy, Columbus, Ohio, USA, 22-26 June 2009 **(plenary lecture)**.
- 54 High-Spin Aggregates on Helium Nanodroplets: Formation, Optical Pumping, and Electron Spin Resonance, Wolfgang E. Ernst, International Workshop on Quantum Fluid Clusters (QFC-7), Dresden, Germany, 24-27 May 2009 **(invited)**.
- 55 Beams of atoms and molecules: from atomic waves to cluster formation and cold matter, Wolfgang E. Ernst, ESF-FWF Conference on Quantum Optics: From Photons and Atoms to Molecules and Solid State Systems, Universitätszentrum Obergurgl, Ötz Valley, Innsbruck, Austria, 24 Feb-1 March 2008 **(invited)**.
- 56 Alkali atoms on cold helium droplets: aggregation, state selection, optical pumping, and electronic spin relaxation, Wolfgang E. Ernst, XXIth Dynamics of Molecular Collisions Meeting in Santa Fe, New Mexico, USA, July 2007 **(invited)**.
- 57 Alkali Atoms on Cold Helium Droplets: Aggregation, State Selection, Optical Pumping, and Magnetic Dichroism, Wolfgang E. Ernst, Gordon Research Conference on *Electronic Spectroscopy and Dynamics*, Les Diablerets, Switzerland, Sept. 2006 **(invited)**.
- 58 Alkali Atoms on Cold Helium Droplets: Aggregation, State Selection, Optical Pumping, and Polarization, G. Auböck, J. Nagl, O. Allard, C. Callegari, and W. E. Ernst, EU and ESF Workshop on *Achievements and Perspectives of Cold Molecules*, Les Houches, France, March 2006 **(invited)**.
- 59 How Can Siemens and BASF Profit from Einstein?, W. E. Ernst, Symposium Central and Eastern Europe – Connecting Corporate and Academic Europe, Wien, Austria (2004) **(invited)**.

- 60 Cold Clusters in the Light of Lasers, W. E. Ernst, Vth Workshop on Atomic and Molecular Physics, Jurata, Poland (2004) **(invited)**.
- 61 Heavy Alkali Atoms on Helium Nanodroplets: Spectra and Interpretation, W. E. Ernst, 228th American Chemical Society National Meeting, Philadelphia, PA, USA (2004) **(invited)**.
- 62 Alkali Clusters – Model Systems for the Study of Vibronic Interactions, W. E. Ernst, 35th EGAS Conference, Brussels, Belgium (2003) **(plenary lecture)**.
- 63 From Atoms to Clusters: Aggregation Controlled by Quantum Mechanics, W. E. Ernst, 3rd Southeast Europe Conference of the Alexander von Humboldt Foundation, Zagreb, Croatia (2002) **(plenary lecture)**.
- 64 Dynamics of Rubidium and Cesium Atoms on Helium Nanodroplets, W. E. Ernst, Vth Workshop on Quantum Fluid Clusters, European Centre for Theoretical Studies in Nuclear Physics and Related Areas, Trento, Italy, (2002) **(invited)**.
- 65 Experiments with Rubidium and Cesium Atoms on Cold Helium Nanodroplets, W. E. Ernst, Coherent Control and Cold Molecules, International Workshop, Laboratoire Aime Cotton, CNRS, Orsay, France (2001) **(invited)**.
- 66 Helium Nanodroplets – A Finite Size Superfluid and a Cold Environment for Atoms and Molecules, W. E. Ernst, Workshop on Prospects of Cold Molecules II, Castle St. Martin, Austria (2000) **(invited)**.
- 67 From Atoms to Clusters: Aggregation Controlled by Quantum Mechanics, W. E. Ernst, 50. Jahrestagung der Österreichischen Physikalischen Gesellschaft, Graz, Austria (2000) **(invited)**.
- 68 Frequency Domain Spectroscopy of Alkali Oligomers on Helium Nanodroplets, W. E. Ernst, 220th American Chemical Society National Meeting, Washington, D.C., USA (2000) **(invited)**.
- 69 Optical Spectroscopy of Molecules in Helium Nanodroplets, W. E. Ernst, IVth Workshop on Quantum Fluid Clusters, Ringberg Schloß, Bavaria, Germany (2000) **(invited)**.
- 70 Trapping and Spectroscopy of Molecules in Cold Helium Droplets, W. E. Ernst, ITAMP Workshop on “Trapping, Spectroscopy, and Collisions of Ultracold Molecules”, Harvard Institute for Theoretical Atomic and Molecular Physics, Cambridge, MA, USA (1999) **(invited)**.
- 71 The Sodium Trimer: A Model System for the Study of Vibronic Interactions and Geometric Phase Effects, W. E. Ernst, ITAMP Workshop on “The Geometric Phase: Recent Developments and Applications in AMO Physics”, Harvard Institute for Theoretical Atomic and Molecular Physics, Cambridge, MA, USA (1999) **(invited)**.
- 72 Helium Droplets as Nano-Cryostats: Atomic and Molecular Spectroscopy in a Cold Environment, W. E. Ernst, J. Higgins, C. Callegari, J. Reho, K.K. Lehmann, and G. Scoles, 14th International Conference on Spectral Line Shapes, Penn State, University Park, Pennsylvania, USA (1998) **(invited)**.

- 73 Excited State Dynamics of Na, Na₂, and Na₃ on Superfluid Helium Clusters, J. Higgins, C. Callegari, J. Reho, W.E. Ernst, K.K. Lehmann, M. Gutowski, and G. Scoles, Faraday Discussion No. 108, University of Sussex, UK (1997) **(invited)**.
- 74 Vibronic Interaction Dynamics in Alkali Trimers from High Resolution Spectroscopy, W.E. Ernst, 24th International Symposium on Free Radicals, Tällberg, Dalecarlia, Sweden (1997) **(invited)**.
- 75 Atoms on Cold Clusters: Laser Spectroscopic Investigation of the Interaction Dynamics, W.E. Ernst, 29th EGAS Conference, Berlin, Germany (1997) **(plenary lecture)**.
- 76 Alkali Molecules on Large Helium Clusters: Reaction Dynamics at 0.4 Kelvin, W.E. Ernst, March Meeting of the American Physical Society, Kansas City, Missouri, USA (1997) **(invited)**.
- 77 Atome auf kalten Clustern - Reaktionsdynamik bei 0,4 Kelvin, W.E. Ernst, Frühjahrstagung der Deutschen Physikalischen Gesellschaft, Mainz, Germany (1997) **(plenary lecture)**.
- 78 Highly Quantum Clusters as an Environment for Spectroscopy of Alkali Atoms and Molecules, F. Stienkemeier, G. Scoles, J. Higgins, C. Callegari, J. Reho, and W. E. Ernst, 12th Interdisciplinary Laser Science Conference (ILS-XII), Rochester, NY, USA (1996) **(invited)**.
- 79 Spectroscopy of Alkali Atoms and Molecules Attached to Highly Quantum Clusters, F. Stienkemeier, J. Higgins, W.E. Ernst, C. Callegari, and G. Scoles, Twelfth International Conference on Laser Spectroscopy, Capri, Italy (1995) **(invited)**.
- 80 Spectroscopy of Alkali Atoms and Molecules Attached to Large Helium Clusters, F. Stienkemeier, W.E. Ernst, J. Higgins, and G. Scoles, Workshop on Quantum Fluid Clusters, Ringberg Schloß, Bavaria, Germany (1994) **(invited)**.
- 81 High Resolution Studies of Vibronic Coupling in Small Clusters, W.E. Ernst, March Meeting of The American Physical Society, Pittsburgh, Pennsylvania, USA (1994) **(invited)**.
- 82 Spektroskopische Tests der Berry-Phase in Molekülen, W.E. Ernst, 58. Physikertagung, Hamburg, Germany (1994) **(plenary lecture)**.
- 83 Molecular Dynamics in Small Clusters Probed by High Resolution Double Resonance Ionization Spectroscopy, W.E. Ernst, S. Rakowsky, and R.F.W. Herrmann, 9th Interdisciplinary Laser Science Conference (ILS-IX), Toronto, Canada (1993) **(invited)**.
- 84 Laser Spectroscopy Tests for Berry's Geometrical Phase in Molecules, W.E. Ernst, Eleventh International Conference on Laser Spectroscopy, Hot Springs, Virginia, USA (1993) **(invited)**.
- 85 High Resolution Studies of the Molecular Dynamics in Small Clusters, W.E. Ernst and S. Rakowsky, 15th International Conference on Lasers and Applications, Houston, Texas, USA (1992) **(invited)**.

- 86 Laser Spectroscopy of High Temperature Molecules and Clusters, W. E. Ernst and J. Kändler, Ninth International Conference on Laser Spectroscopy, Bretton Woods, NH, USA (1989) (**invited**).
- 87 High Resolution Double Resonance Spectroscopy of Molecules and Small Clusters, W. E. Ernst, 44th Symposium on Molecular Spectroscopy, Columbus, OH, USA (1989) (**plenary lecture**).
- 88 Laser Spectroscopy of Atoms and Molecules in the VUV Spectral Region below 100 nm, W. E. Ernst, 10th Colloquium on High Resolution Molecular Spectroscopy, Dijon, France (1987) (**plenary lecture**).
- 89 Laser Spectroscopy of Atoms and Molecules in the Extreme VUV below 100nm, W. E. Ernst, T. P. Softley, L. Tashiro and R. N. Zare, Eighth International Conference on Laser Spectroscopy, Åre, Sweden (1987) (**invited**).
- 90 Neue Doppelresonanzmethoden zur Untersuchung der elektronischen Struktur von Radikalen, W. E. Ernst, 51. Physikertagung der DPG (Haupttagung), Berlin, Germany (1987), Vortrag anlässlich der Verleihung des Physikpreises 1987 (**plenary lecture, award of 1987 Physics Prize**).
- 91 Spektroskopie an Molekülen: Fortschritte durch den kombinierten Einsatz von Lasern und Mikrowellen, W. E. Ernst, DPG-Frühjahrstagung (1987) in Göttingen, Germany (**plenary lecture**).
- 92 Double Resonance Techniques for the High Resolution Spectroscopy of Unstable Molecules, W. E. Ernst, International Laser Science Conference, Seattle, WA, USA (1986) (**invited**).
- 93 High Resolution Spectroscopy of Alkaline Earth Monohalides: Perturbation Analysis, Hyperfine Structure, and Stark Effect, W. E. Ernst, Fritz Haber International symposium on Methods of Laser Spectroscopy, Weizmann Institute (Rehovot) und Ein Bokek, Israel (1985) (**invited**).
- 94 Electronic Structure of Alkaline Earth Monohalides from Laser-Microwave Double Resonance Spectroscopy, W. E. Ernst, J. O. Schröder, and J. Kändler, Seventh International Conference on Laser Spectroscopy, Maui, Hawaii, USA (1985) (**invited**).
- 95 Dipole Moments of Alkaline Earth Monohalides, T. Törring, W. E. Ernst, and S. Kindt. British Radiofrequency Spectroscopy Group Spring Meeting 1984, Cambridge England (**invited**).
- 96 Laser-Microwave Polarization Spectroscopy of Radicals, W. E. Ernst, Sixth International Conference on Laser Spectroscopy, Interlaken, Switzerland (1983) (**invited**).
- 97 Studies of Tunable Electron Beam Pumped Excimer Lasers, F. K. Tittel, W. L. Wilson, W. E. Ernst, G. Marowsky, and M. Smayling, 1980 International Conference on Lasers, Shanghai (May 5-8) and Beijing (May 19-22), China (**invited**).

Conferences organized

- 1 343rd Heraeus Meeting, Topic “Helium Clusters – Finite-Size Superfluid and Nano-Size Cryostat”, Chair: W. E. Ernst and C. Callegari, Bad Honnef, Germany, 30 Mar. - 1 Apr. 2005.
- 2 56th Annual Meeting of the Österreichische Physikalische Gesellschaft and 100th Ludwig Boltzmann Anniversary, Chair: W. E. Ernst, Graz, Austria, 18 – 21 Sep. 2006.
- 3 40th EGAS Conference of the European Physical Society, Chair: L. Windholz and W. E. Ernst, Graz, Austria, 2 – 5 July 2008.
- 4 482nd Heraeus Meeting. Topic “Helium Nanodroplets – Confinement for Cold Molecules and Cold Chemistry”, Chair: W. E. Ernst and M. Koch, Bad Honnef, Germany, 29 May – 1 June 2011.
- 5 XIInd International Symposium on the Jahn-Teller Effect, Chair: W. E. Ernst, Graz, Austria, 18 – 22 August 2014.
- 6 68th Annual Meeting of the Österreichische Physikalische Gesellschaft, Chair: W. E. Ernst, Graz, Austria, 11 – 14 Sep. 2018.