

# Curriculum vitae et studiorum Alessandro Baraldi

## Present position

- Full Professor in Experimental Physics of Matter  
Physics Department, University of Trieste
- Deputy-Rector Scientific Research and Doctorates  
University of Trieste
- Head Nanoscale Materials Laboratory  
Elettra-Sincrotrone Trieste



## Personal information

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web: <http://alessandrobaraldi.weebly.com>  
Lab webpage: <https://www.elettra.eu/lightsources/labs-and-services/nanoscale-mater/index.html>

### ORCID iD

<https://orcid.org/0000-0001-5690-9668>

SCOPUS ID: 7103412946

Civil status: born in 1967 in Udine, married, two children

## Education

- 1999:** PhD in Physics at the Physics Department, Karl-Franzens Universität of Graz-Austria with a thesis entitled: *“Adsorption and reaction of small molecules on 4d transition metal surfaces”* Supervisor: Prof. Falko P. Netzer.
- 1991:** Laurea in Physics ‘summa cum laude’ at the University of Trieste.
- 1991:** Visiting student at the Schuster Laboratories, School of Physics and Astronomy of the University of Manchester, UK.

## Present position and appointments

- 2019-today** Deputy-Rector for Scientific Research and Doctorates, University of Trieste.
- 2021-today** Full Professor in Experimental Physics of Matter, SSD FIS/03, University of Trieste.
- 2012-today** Responsible of the Nanoscale Materials Laboratory jointly established on the basis of an official agreement between the Department of Physics of the University of Trieste and Elettra-Sincrotrone Trieste.
- 2011-today** Member of the Board of Teachers for the Doctorate in Nanotechnology - University of Trieste
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- 2012-2021:** Associate Professor in Experimental Physics of Matter, SSD FIS/03, University of Trieste.
- 2013-2019** Delegate for Research of the Physics Department, University of Trieste.
- 2013-2018** Delegate for Technology Transfer of the Physics Departments, University of Trieste.

- 2013-2019** Coordinator of the Educational Activity for the Course of Doctorate in Nanotechnology.  
**2013-2015:** Deputy-chair of the Doctorate in Nanotechnology, University of Trieste.  
**2001-2012:** Assistant Professor in Experimental Physics of Matter, SSD FIS/03, University of Trieste.  
**1994-2001:** Beamline Scientist of the Scientific Division at Sincrotrone Trieste S.C.p.A., hired on a permanent basis.  
**1992-1994:** Fellowship from Area Ricerca Scientifica e Tecnologica della provincia di Trieste, employed in the synchrotron radiation instrumentation development group.  
**1991:** Research Grantee of Sincrotrone Trieste S.C.p.A.

## Teaching and course development

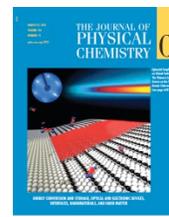
- since 2001** Organizer of the university course *Laboratory of Condensed Matter Physics*, Physics, University of Trieste.  
**since 2003** Organizer of the PhD course *Photoemission Spectroscopy*, for the PhD Schools in Physics and Nanotechnology of the University of Trieste.  
**since 2011** Organizer of the university course *Fundamentals of Surface Physics - Part I*, Physics, University of Trieste  
**2004-2011** Organizer of the university course *General Physics*, Geology and Environmental Science, University of Trieste.

Average score obtained in the students evaluations during the last 10 years (period from A.A. 2011/12 to A.A. 2019/2020 - 18 corsi): **9.49** (scale ranging from 1 to 10)

As head of the Physics of Matter Laboratory Course, I have involved the students in original experiments that are proposed from year to year. This allowed some of them to publish the results of the Laboratory Course in scientific international journals subject to review, and in particular:

- 1 M. Bianchi, D. Cassese, A. Cavallin, R. Comin, F. Orlando, L. Postregna, E. Golfetto, S. Lizzit, A. Baraldi, *Clean and oxygen induced surface core level shift on Ir(111)*, *New Journal of Physics* **11**, 063002 (2009). [ImpactFactor: 3.539]
- 2 E. Ferrari, L. Galli, E. Miniussi, M. Morri, M. Panighel, M. Ricci, P. Lacovig, S. Lizzit, and A. Baraldi, *Layer-dependent Debye temperature and thermal expansion of Ru(0001) by means of high-energy resolution core level photoelectron spectroscopy*, *Physical Review B* **82**, 195420 (2010). [ImpactFactor: 3.575]
- 3 B. Casarin, A. Cian, Z. Feng, E. Monachino, F. Randi, G. Zamborlini, M. Zonno, E. Miniussi, P. Lacovig, S. Lizzit, and A. Baraldi, *The Thinnest Carpet on the Smallest Staircase: the Growth of Graphene on Rh(533)*, *Journal of Physical Chemistry C* **118**, 6242 (2014). [ImpactFactor: 4.189]

For the originality of the results this last publication has been selected for the Cover of the volume 118 of *Journal of Physical Chemistry C*.



- 4 Stefania Baronio, Valeria De Leo, Ginevra Lautizi, Paola Mantegazza, Eleonora Natale, Manuel Tuniz, Stefano Vigneri, Luca Bignardi, Paolo Lacovig, Silvano Lizzit, Alessandro Baraldi, *Vibrational Fine Structure in C1s High-Resolution Core Level Spectra of CO chemisorbed on Ir(111)*, *J. Phys. Chem. C* **126**, 1411 (2022).

## Mentoring and Advising

- 22 Master's students in Physics
- 7 PhD students in Physics
- 7 PhD students in Nanotechnology

Actually supervisor of: 1 PhD students in Physics, 1 PhD students in Nantechnology and 3 Master's students in Physics

## Research activities

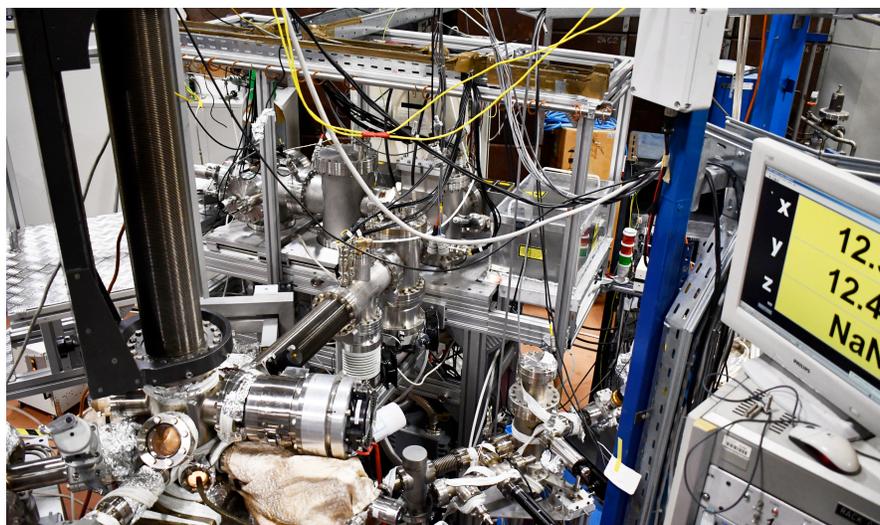
My experimental research interest focus on the properties of condensed matter, in particular in the field of solid surfaces and interfaces, two-dimensional materials and nanoclusters.

I'm currently responsible of the Nanoscale Materials Laboratory, jointly established by the Department of Physics and Elettra - Sincrotrone Trieste at the Area Science Park of Basovizza-Trieste.

During the first 15 years of activity the main scientific interests have been the study of the geometric and electronic structure of metal, semiconductors and oxides surfaces and of the processes of atomic and molecular interaction, in particular in the case of transition metals. In that period I was involve in the realization of the first experiments at the Elettra SuperESCA beamline, the first to become operational, and in the development of fast X-ray photoemission spectroscopy techniques for the study of the processes of adsorption, diffusion, dissociation, desorption and atomic and molecular reaction on surfaces. During those years my scientific interests have been directed towards understanding the properties of strongly bound electrons, even if not directly involved in the formation of chemical bonds, for which I have highlighted the importance of their properties for understanding a variety of surface phenomena including chemical reactivity in transition metals, surface magnetism and surface melting processes.

After 2009 my research ha directed to the study of the properties of graphene and other two-dimensional materials (hexagonal boron nitride, MoS<sub>2</sub>, transition metal dichalcogenides, borophene) epitaxially grown on the surface of several transition metals and oxides. For these systems I've investigated the structural, electronic, thermodynamic and chemical properties, exploiting in particular the properties of synchrotron radiation, in particular photoelectron spectroscopy, but also other complementary techniques (low energy electron diffraction, mass spectroscopy, scanning tunneling microscopy, low energy electron microscopy). During these years I developed my experimental research activity in the full awareness that the close collaboration with the scientific community of condensed matter theoretical physicists represents a fundamental opportunity to deepen the knowledge of the systems under investigation. For this reason, in addition to an extensive network of collaborations with experimental research groups at the international level, I have built a fruitful and ongoing scientific collaboration with theoretical research groups dealing with *ab initio* calculations.

Since 2013, I have been project manager for the development, construction and operation of a new instrument able to produce mass selected atomic clusters. After a long period of development and commissioning of the various stages of the machine the source began to operate with excellent performances at the end of 2018. ENAC (Exact Number of Atoms in each Cluster) is an instrument capable of producing atomic clusters of almost all the elements of the periodic table, all equal to each other, i.e. formed by the same identical number of atoms and deposit them in a soft-landing on the surfaces. It represents a unique example in the landscape of scientific research in Italy and its coupling to Elettra and FERMI will allow to exploit the unique properties of the radiation produced by these sources, representing a unique tool in the field of research at international level. It is to this new instrument and to the results that it will produce that I intend to devote the next years of scientific activity.



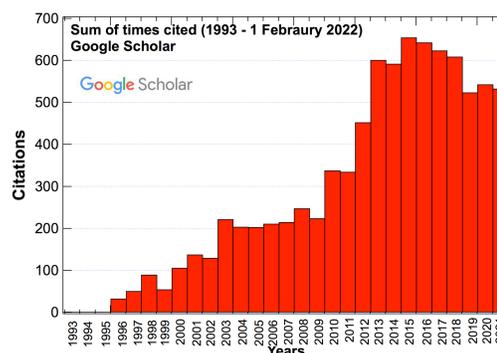
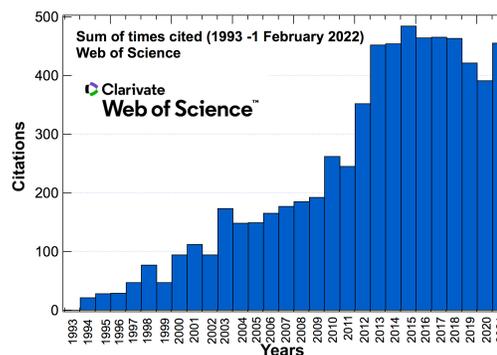
## Publications

The scientific production includes **187** papers in peer-reviewed international scientific journals.

Publications appear in the most prestigious journals in physics, chemistry and nanotechnology including 1 *Nature Materials*, 1 *Nature Physics*, 1 *Nature Communications*, 15 *Physical Review Letters*, 5 *ACS Nano*, 7 *Journal of the American Chemical Society*, 1 *Nano Letters* and 4 *invited papers*

- Hirsch-index: **40 (Clarivate-Web Of Science)**
  - Number of citations: **6710**
  - Average citations per paper: **35.69**
- 
- Hirsch-index: **45 (Google Scholar)**
  - Number of citations: **8731**
  - Average citations per paper: **46.68**
  - i10-index: **148** (equal to 79% of the total)

I'm listed in the [Top Italian Scientists \(Material & Nano Sciences\)](#)



## Most relevant scientific results

- 1998: Measurement of the Surface Core Level Shift of Be(1010).  
[*Phys. Rev. Lett.* **81**, 3271 (1998)]
- 1999: First experimental proof of surface magnetic properties of Rh(100) by means of magnetic dichroism.  
[*Phys. Rev. Lett.* **82**, 3156 (1999)]
- 1999: Discovery of the tendency of oxygen atoms to adsorb always in the same adsorption site on Rh surfaces.  
[*Phys. Rev. Lett.* **82**, 4874 (1999)]
- 2001: Characterization of a novel mechanism for the CO+O chemical reaction on Rh(110).  
[*Phys. Rev. Lett.* **87**, 196104 (2001)]
- 2002: First use of a supersonic molecular beam in combination with the fast-photoemission for the study of surface chemical reactions.  
[*Surf. Sci. Rep.* **49**, 169 (2003)]
- 2004: Discovery of a strong correlation between the core level shifts of surface atoms and the chemical reactivity.  
[*Phys. Rev. Lett.* **93**, 046101 (2004)]
- 2004: First use of high-energy resolution photoemission for surface calorimetric measurements.  
[*Phys. Rev. Lett.* **93**, 106105 (2004)]
- 2005: Quantitative analysis of a surface segregation process in a bimetallic surface alloy during a chemical reaction.  
[*J. Am. Chem. Soc.* **127**, 5671 (2005)]
- 2006: Enhanced chemical reactivity of Rh nano-pyramids.  
[*Phys. Rev. Lett.* **97**, 56103 (2006)]
- 2009: Discovery of a new process for graphene growth on a metal surface.  
[*Phys. Rev. Lett.* **103**, 166101 (2009)]  
[Article discussed in the Viewpoint, \*Physics\* \*\*2\*\*, 84 \(2009\) and \*Materials Today\*, "Graphene speeds up computers", \*\*12\*\*, 12 \(2009\).](#)
- 2010: Determination of the energetic dispersion in the C1s core level of graphene.  
[*Nature Physics* **6**, 345 (2010)]  
[Article selected for the Cover Page of \*Nature Physics\*, May 2010.](#)

- 2010: Determination of the energy band gap in hydrogenated graphene.  
 [Nature Materials 9, 315 (2010)].  
 Article discussed in the News&Views, "What lies between", of Nature Materials 9, 291 (2010).  
 [Highly Cited Paper](#) The paper received enough citations to place it in the top 1% of the academic field of **Materials Science** based on a highly cited threshold for the field and publication year.
- 2010: Structural determination of an alumina ultra-thin film by means of photoelectron diffraction.  
 [Phys. Rev. Lett. 105, 046102 (2010)]
- 2011: Comparison of the thermal expansion of supported and free-standing graphene.  
 [Phys. Rev. Lett. 105, 046102 (2010)]
- 2011: Relationship between corrugation and thermal stability of epitaxial graphene.  
 [Phys. Rev. Lett. 106, 216101 (2011)]
- 2012: Characterization of the thermal reduction process of graphene oxide by means of core level spectroscopy.  
 [J. Am. Chem. Soc. 133, 17315 (2011)]
-  [Highly Cited Paper](#) The paper received enough citations to place it in the top 1% of the academic field of **Chemistry** based on a highly cited threshold for the field and publication year.  
 Article selected for the Cover Page of JACS, Issue 43, Vol 133, November 2011.
- 2012: Determination of the ammonia dissociation mechanism on Si(001).  
 [Phys. Rev. Lett. 109, 036102 (2012)]
- 2012: Correlation between the morphology and the electronic structure in self-assembled Rh nanoclusters on epitaxial graphene.  
 [ACS Nano 6, 3034 (2012)]
- 2012: Development of a new method for transfer free electrical insulation of graphene from its metallic substrate.  
 [Nano Letters 12, 4503 (2012)]  
 Article discussed in the Research Highlights of Nature Nanotechnology 7, 613 (2012).
- 2012: A new procedure for decoupling graphene from its supporting substrate.  
 [ACS Nano 6, 9951 (2012)]  
 Article discussed in the Research Highlights of Nature Materials 12, 3 (2013).
- 2014: Development of a new method for the creation of graphene-oxide interfaces  
 [Nat. Commun. 5, 5062 (2014)]
- 2016: Discovery of a new process of molecular dissociation  
 [J. Am. Chem. Soc. 138, 3395 (2016)].  
 Article selected for the Cover Page of JACS, Issue 10, Vol 138, March 2016.  
 Article discussed in the Spotlights of JACS, "Dehydrogenations for the creation of new carbon nanostructures", J. Am. Chem. Soc. 138, 3253 (2016)
- 2018: Development of a process for the growth of a second layer of graphene  
 [Nanoscale 10, 7396 (2018)]  
 Article selected for the Cover Page of Nanoscale, Issue 10, (2018).
- 2019: Development of a new process for the growth of a single-domain of WS<sub>2</sub> on Au(111).  
 [Phys. Rev. Mater. 3, 014003 (2019)].  
 Article selected as Editorial Suggestions of Physical Review Materials, Vol 3 (2019).
- 2019: Determination of the effects of screening of the van der Waals forces due to a single layer of graphene.  
 [ACS Nano 13, 12230 (2019)]
- 2021: Discovery of a reversible molecular dissociation process  
 [Chemical Science 12, 170 (2021)]  
 Article selected for the Back Cover of Chemical Science, Issue 12, (2021).

## Responsibilities in research projects

- Since 1997 Project Leader of 33 research projects for experiments at the Elettra beamlines. Project leader for experiments performed in other European synchrotron radiation facilities, such as MAX-lab, National Electron Accelerator Laboratory Lund, Sweden and at ASTRID - Institute for Storage Ring Facilities at Århus, Denmark. For the award of beamtime and

related technical and organizational support the contribution granted to my research program has a financial value of more than 1.95 MEuro.

- Head of the project "Molecular Beams" financed by Sincrotrone Trieste.
- Head of the project PURS 2001 "Oscillatory Kinetics studied by Fast X-Ray Core Level Spectroscopy" financed by the National Institute of Physics of Matter.
- Responsible of the local unit within the Joint International Project entitled "Growth and thermodynamics of graphene on transition metals surfaces" by the UK Royal Society for the study of the electronic properties of graphene.
- Responsible of the project FRA2009 - Fondi di Ricerca di Ateneo entitled "Towards nanostructured metamaterials based on graphene" financed by the University of Trieste.
- Responsible of the project FRA2014 - Fondi di Ricerca di Ateneo entitled "New strategies for the synthesis of graphene-based materials" financed by the University of Trieste.
- Responsible of the project financed in 2017 by the Università di Trieste entitled "METAMAT. Quando ogni singolo atomo conta: verso innovativi metamateriali nanostrutturati" financed with a position of RTDa.
- Responsible of the project ENAC-Exact Number of Atoms in each Cluster, for the development and the construction of a size selected cluster source.
- Responsible of the FFABR 2017
- Member of several Research Projects cofinanced by the Ministry of Education, University and Research within the PRIN 2001, PRIN 2003 and PRIN 2010 programmes.

## Awards and Honors

- 2020** Elettra Distinguished Scientist
- 2012** NEXTx10 of TELECOM ITALIA awarded to 10 among the best Italian researchers selected to present their ideas on innovation during the inaugural ceremony of the "EUROPEAN INNOVATION AND SCIENCE RESEARCH FORUM".
- 1997** "Scientific production" assigned from the Italian Physical Society to young researchers.

## National Scientific Abilitation

- 2017** Idoneity to full professor position in the sector 02/B1-FISICA DELLA MATERIA SPERIMENTALE within National Abilitation Procedure – year 2016. Within the evaluation in the "Settore Scientifico Disciplinare/Settore Concorsuale 02/B1: Fisica Sperimentale della Materia" my score resulted

	Indicator 1	Indicator 2	Indicator 3
Threshold value for the full professor position	<b>33</b>	<b>625</b>	<b>14</b>
Alessandro Baraldi	<b>63</b>	<b>3139</b>	<b>28</b>

- 2013** I've obtained the abilitation to full professor already in 2013.

## Recent invited seminars

- Carbon monoxide oxidation on Pt nanoclusters supported on MgO(001)/Ag(100), Department of Physical Chemistry, Technische Universität München, Germany (2010).
- Shedding light on graphene using x-rays, Workshop "Photons for Medicine and Material Science", Melbourne, Australia (2010).
- Shedding light on graphene using x-rays, Karl-Franzens Universität, Graz, Austria (2010).
- Shedding light on graphene using x-rays, SILS Meeting, Padova, Italy (2010)
- Exploiting energy and time resolution with core level photoelectron spectroscopy, International workshop "Light on Surface" Roma, ITALY (2010)

- *Shedding light on graphene using x-rays*, Department of Physics and Astronomy, University of Aarhus, Denmark (2011).
- *Shedding light on graphene using x-rays* Department of Physics, Technische Universität München, Germany (2011).
- *Shedding light on epitaxial graphene using x-rays* ACSIN 2011, 11th International Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures, St. Petersburg, RUSSIA (2011).
- *Shedding light on epitaxial graphene using x-rays* XXII International Symposium “Frontiers of Fundamental Physics”, Udine, Italy (2011)
- *Growth, interaction and thermal stability of epitaxial graphene*, Cost Action, Trieste (2011).
- *Shedding light on epitaxial graphene using x-rays*, Workshop on Atomic and Electronic Structures of Surfaces and Interfaces, Diamond Light Source, UK (2012).
- *Shedding light on epitaxial graphene using x-rays*, Crystal & Graphene Science Symposium-2012, Boston-Waltham, MA, USA (2012).
- *Sorprendente grafene. Sarà il materiale del futuro?* NEXTx10, Trieste (2012).
- *Shedding light on epitaxial graphene using x-rays*, EWEG'2013: European Workshop on Epitaxial Graphene, French Alps, (2013)
- *Exploring surface processes with high energy resolution photoelectron spectroscopy*, International Scientific Spring, Islamabad, Pakistan (2013)
- *Shedding light on epitaxial graphene using x-rays*, Workshop “Alternate Energy Technologies”, Islamabad, Pakistan (2013)
- *Learning from the spectral lineshape in core level photoelectron spectroscopy: from clean metal surfaces to epitaxial graphene*. CCP9/CECAM-JCMaxwell Workshop “Electronic excitations and photoelectron spectroscopy: bridging theory and experiment”, Oxford, UK (2013)
- *Probing growth and properties of epitaxial graphene using high-energy resolution photoelectron spectroscopy*, Chemistry Department, Ludwig-Maximilians University, München, Germany (2014).
- *Shedding light on epitaxial graphene using x-rays*, University of Poznan, Poland (2014).
- *Growth and properties of graphene based interfaces*, International Scientific Spring, Islamabad, Pakistan (2015)
- *Surface structural investigations using photoelectron spectroscopy*, International Scientific Spring, Islamabad, Pakistan (March, 2015)
- *Photoelectron spectroscopies and microscopies with synchrotron radiation for the investigations of polymer interfaces*. European Polymer Federation - 7<sup>th</sup> Summer School Polymers at Interfaces and Surfaces, Gragnano Italy (2015).
- *Shedding light on epitaxial graphene using high-energy resolution photoelectron spectroscopy*, International Conference on Electron Spectroscopy and Structure, Stony Brook, USA (2015).
- *Sorprendente nanomondo: lo straordinario legame tra geometrie e proprietà fisiche*, Lezioni Lincee di Fisica, Accademia Nazionale dei Lincei, Trieste (2015).
- *Bottom-up approach for the synthesis of graphene-oxide nanosheet interfaces*, 41st International Conference on Advanced Ceramics and Composites (ICACC'16), Daytona Beach, USA (2016).
- *High-energy resolution and real-time core level photoelectron spectroscopy*, HERCULES European School, Trieste, I (2016).
- *Growth and characterization of novel graphene-oxide interfaces for energy and electronic applications*, NANOENERGY 2016 (3rd International Conference on Nanotechnology, Nanomaterials & Thin Films for Energy Applications), Liverpool, UK (2016).
- *A glimpse at graphene nanoribbons*, Ångström Laboratory, Uppsala University, Sweden (2016)
- *Shedding light on graphene using core level spectroscopy*, Catania, Materials.it 2016, Italian National Conference on Materials Science and Technology, Italy (2016).
- *2D vs 3D. When thin materials are better than thick ones*, GIPE, Trieste, (2018).
- *Probing growth and properties of materials using fast and high-resolution x-ray photoelectron spectroscopy*, HERCULES European School, Trieste (2019).
- *The enticing interaction of graphene with atoms, molecules, clusters and surfaces*, Congresso SILS Camerino, Italy (2019).
- *High-energy resolution core level photoelectron spectroscopy*, International School on Synchrotron Radiation, Muggia-Italy (2019).
- *Physical and chemical properties of solid surfaces probed by means of fast and high-resolution x-ray photoelectron spectroscopy*, HERCULES European School, (2020).

## Publications in peer-reviewed international journals

- P1 A. Baraldi, V.R. Dhanak and G. King, *A fringing field corrector for the boundary between two electrostatic deflection analyzers placed in tandem*, Meas. Sci. Technol. **3**, 778 (1992).
- P2 A. Baraldi, V.R. Dhanak, G. Comelli, M. Kiskinova and R. Rosei, *NO dissociation and NO+CO reaction on Rh(110): influence of surface structure and composition on the reaction rates*, Appl. Surf. Sci. **68**, 395 (1993).
- P3 A. Baraldi, V.R. Dhanak, G. Comelli, K.C. Prince and R. Rosei, *Comparative study of adsorption of CO, NO and hydrogen on (1x1) and (1x2) Rh(110)*, Surf. Sci. **293**, 246 (1993).
- P4 V.R. Dhanak, A. Baraldi, G. Comelli, G. Paolucci, M. Kiskinova and R. Rosei, *CO adsorption on unreconstructed and reconstructed Rh(110) surfaces: LEED and XPS study*, Surf. Sci. **295**, 287 (1993).
- P5 P.W. Murray, G. Thornton, M. Bowker, V.R. Dhanak, A. Baraldi, R. Rosei and M. Kiskinova, *Mixed O+N layers on a Rh(110) surface: competition between nitrogen and oxygen reconstructive interactions*, Phys. Rev. Lett. **71**, 4369 (1993).
- P6 P.W. Murray, F.M. Liebsle, G. Thornton, M. Bowker, V.R. Dhanak, A. Baraldi, M. Kiskinova and R. Rosei, *Nitrogen induced reconstruction on Rh(110): effect of oxygen on the growth and ordering of Rh-N chains*, Surf. Sci. **304**, 48 (1994).
- P7 L. Casalis, A. Baraldi, G. Comelli, V.R. Dhanak, M. Kiskinova and R. Rosei, *CO adsorption on Rh(110) covered with ordered (3x1) and (2x1) nitrogen layers*, Surf. Sci. **306**, 193 (1994).
- P8 A. Baraldi and V.R. Dhanak, *Design study of a double pass hemispherical electron energy analyser with multichannel detector*, J. El. Spectrosc. and Related Phenom. **67**, 211 (1994).
- P9 A. Baraldi, V.R. Dhanak, M. Kiskinova and R. Rosei, *Molecular and mixed coadsorbed layers produced by NO adsorption on (1x1) and (1x2) Rh(110)*, Appl. Surf. Sci. **78**, 445 (1994).
- P10 V.R. Dhanak, A. Baraldi, R. Rosei, M. Kiskinova, P.W. Murray, G. Thornton, M. Bowker, *Reconstructive interactions in mixed N+O layers on Rh(110)*, Phys. Rev. B **50**, 8807 (1994).
- P11 V.R. Dhanak, A. Baraldi, G. Comelli, K.C. Prince and R. Rosei, A. Atrei, E. Zanazzi, *Nitrogen adsorption on Rh(110)*, Phys. Rev. B **51**, 1995 (1995).
- P12 L. Gregoratti, A. Baraldi, V.R. Dhanak, G. Comelli, M. Kiskinova and R. Rosei, *Structural effects on water formation from coadsorbed H+O on Rh(100)*, Surf. Sci. **340**, 205 (1995).
- P13 M. Kiskinova, A. Baraldi, R. Rosei, V.R. Dhanak, G. Thornton, F. Liebsle, M. Bowker, *Surface structural transformations during ammonia oxidation on Rh(110)*, Phys. Rev. B **52**, 1532 (1995).
- P14 A. Baraldi, L. Gregoratti, G. Comelli, V.R. Dhanak, M. Kiskinova and R. Rosei, *CO adsorption and CO oxidation on Rh(100)*, Appl. Surf. Sci. **99**, 1 (1996).
- P15 A. Baraldi, V.R. Dhanak, G. Comelli, K.C. Prince and R. Rosei, *O/Rh(100) p(2x2)@c(2x2) order-disorder phase transition*, Phys. Rev. B **53**, 4073 (1996).
- P16 A. Baraldi, M. Barnaba, B. Brena, D. Cocco, G. Comelli, S. Lizzit, G. Paolucci and R. Rosei, *Time resolved core level photoemission experiments with synchrotron radiation*, J. Electron Spectrosc. Relat. Phenom. **76**, 145 (1996).
- P17 J. Mercer, P. Finetti, F.M. Liebsle, R. McGrath, V.R. Dhanak, A. Baraldi, K.C. Prince and R. Rosei, *STM and SPA-LEED studies of O-induced structures on Rh(100) surfaces*, Surf. Sci. **352**, 173 (1996).
- P18 G. Rotaris, A. Baraldi, G. Comelli, M. Kiskinova and R. Rosei, *Carbon monoxide adsorbed on Ru(1010)*, Surf. Sci. **359**, 1(1996).
- P19 S. Steffenato, G. Comelli, R. Rosei, A. Baraldi, G. Paolucci and M. Kiskinova, *Formation of active carbon layer on Pt(111) by electron bombardment of CO*, Surf. and Interface Analysis **24**, 321 (1996).
- P20 A. Baraldi, G. Comelli, S. Lizzit, D. Cocco, G. Paolucci and R. Rosei, *Temperature Programmed X-Ray photoelectron spectroscopy: a new technique for the study of surface kinetics*, Surf. Sci. **367**, L67 (1996).
- P21 G. Comelli, A. Baraldi, S. Lizzit, D. Cocco, G. Paolucci, M. Kiskinova and R. Rosei, *Real-time X-Ray photoelectron spectroscopy study of dissociative oxygen adsorption on Rh(110)*, Chem. Phys. Lett. **261**, 253 (1996).
- P22 A. Baraldi, B. Brena, D. Cocco, G. Comelli, S. Lizzit, G. Paolucci, P. Baumann, V. Scheuch and C. Uebing, *The structure of MoN surface compound on Fe-3.5%Mo-N(110) studied by X-ray photoelectron diffraction: first results from Elettra*, Vacuum, **48**, 351 (1997).
- P23 S. Contarini, G. Tripaldi, G. Ponti, S. Lizzit, A. Baraldi and G. Paolucci, *Surface investigation of lubricant-metal interactions by synchrotron photoemission spectroscopy*, Appl. Surf. Sci. **108**, 359 (1997).

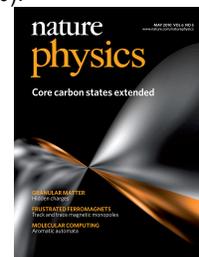
- P24 G. Panaccione, F. Sirotti, S. Lizzit, A. Baraldi, G. Paolucci, N.A. Cherepkov and G. Rossi, *Fe 2p photoemission magnetic dichroism with linearly polarized synchrotron radiation and with unpolarized Al Ka radiation*, Surf. Sci. **376**, 440 (1997).
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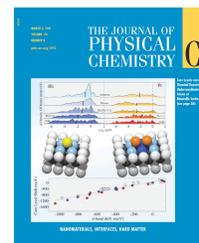
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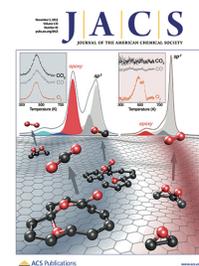
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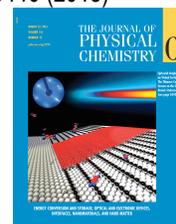


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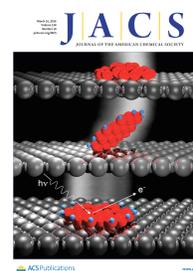


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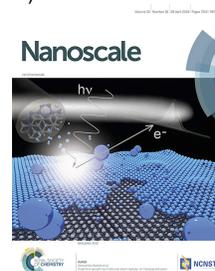
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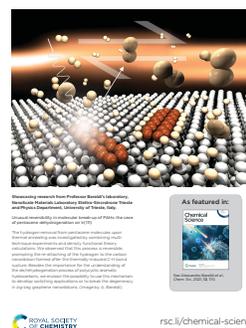
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