

PERSONAL INFORMATION

**Angela Bracco**  
 born 24-09-1955 in Lecco (Italy).  
 Present work address: Dipartimento di Fisica, Università di Milano, via  
 Celoria,16, 20133 Milano, e-mail: Angela.Bracco@mi.infn.it

WORK EXPERIENCE

Full professor of Physics (Experimental Physics) at the University of Milano  
 (from 2002 to present ).

Associate professor of Physics (Experimental Physics) at the University of  
 Milano (from 1998 to 2002)

Researcher (Experimental Physics) at the University of Milano  
 (from 1983 to 2002)

EDUCATION AND TRAINING

Ph.D. in Physics (1983, Canada, TRIUMF laboratory at UBC  
 Vancouver and U.of. Manitoba which gave the Ph.D).

Laurea (Master) in Physics (1979), Università degli Studi di Milano

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
	English				
English	Proficient User C1	Proficient User C1	Proficient User C1	Proficient User C1	Proficient User C1
	French				
French	Independent user B1	Independent user B2	Independent user B1	Independent user B1	Independent user B2

**Teaching and communication skills**

General Physics - Electromagnetism and optics for Physics students (from 1983-to 1998)  
 “Experimental techniques in gamma spectroscopy Course for Graduate School (1992-1994)  
 General Physics - Electromagnetism and optics for Chemistry students (2001-2002)  
 Laboratory of gamma spectroscopy for Physics students (1994- present)  
 Introductory Nuclear and Particle physics (2004-present)  
 Member of the board of Graduate School in Physics (2003) -  
 Supervisor for undergraduate theses for the first level (22 theses) and Master 33 theses  
 Supervisor or co-supervisor for graduate theses (Ph.D): 13 theses  
 Member and chair of several committees for Ph. D graduation in Milano, Italy and abroad.

**Organisational / managerial skills**

My research is in the field of experimental Nuclear Physics (with focus on gamma spectroscopy for nuclear structure) In connection with my experience in managing research funding and personnel I had the chance to be in many committees and panels dealing with several different activities: astrophysics, astroparticle, particle, nuclear and accelerator physics, new technical developments and applications. In addition I did evaluation work (two times member of GEV of ANVUR , ERC panel members for three times)

- MIUR (Ministry of Research and University) representative member in the *Board of directors of INFN* (from August 2011-to August 2015)
- Chair of the Nuclear Physics Board of INFN (CSN3) from April 2005 to September 2011- This responsibility position implied extensive work to organize the funding of many different projects in Nuclear Physics in the Italian laboratories LNL, LNS (and partly in LNGS and LNF), at CERN, and at several foreigner laboratories such as GSI, GANIL, JLAB, and few others. The activity included also the preparation of road map and triennial plans, annual reports of the results and future planning to be presented to the international evaluation committee of INFN.
- Member of several selection committees for INFN and University personnel. In particular, I was chair of an INFN Committee for selection at national level for Advanced researchers (more than 200 participants) and chair of a committee for selection at national level of first level researchers of INFN. Member of several university committees for selection for positions of different levels at several Universities in Italy and in Europe (Leuven and Darmstadt) .
- Member of the governing board of the EU project NupNet (ERANET for Nuclear Physics in FP7) and responsible of one working package -from 2008-2011. I particular I worked in the preparation of calls for projects to be funded jointly by several funding agencies in Europe.
- Responsible at National level of a PRIN MIUR project (competitive funding) on instrumentation for Radioactive beams (2013-2015)
- Chair of NuPECC - the nuclear Physics expert committee of the European Science Foundation, from January 2012- December 2017. (Among the activities made for NuPECC is the volume “ Nuclear Physics for Medicine”; “The long Range Plan in Nuclear Physics”)- Invited (in 2014-2017) to contribute in several meetings of ESFRI for the European Landscape for Physics.
- Member of WG9 (nuclear physics) of IUPAP (from 2012 to present).
- Member of the Executive Board of the European Physical Society (from 2014-2018).

**My activity in evaluation panels for EU commission, Institutions and Agencies is listed below:**

---- Member of several panels for the EU commission in different calls and framework programs.  
*Member of the ERC panel for evaluation and selection* of physics projects with meetings in Bruxelles (section PE in HORIZON2020) for the Starting grants (in 2014-2016-2018).

---- Panel member (evaluation and selection) for calls within the FP6 and FP7 programs. Evaluation panels in Bruxelles for proposals of the type “Integrated Activities” and “Design Studies” ( 2002, 2003 and 2004) and in 2005 for “Research and Training Networks , Marie Curie fellows”.

---- Member of the Physics Expert Panel (called GEV) of ANVUR for the evaluation of the Italian Research from 2011 up to May 2013. I was the coordinator of the sub-panel for nuclear, particle and astroparticle physics. ANVUR GEV member also for the second evaluation in 2015-2016.

---- Responsible for the Nuclear and particle physics evaluation of several Greek institutes (February 2014), nominated by the Greek Ministry of Research.

---- Member of the Review panel of the Helmholtz Programme ”Physics of Hadrons and Nuclei” (GSI, February 2009), Member of the Review Panel of the Helmholtz Institute Mainz”Structure, Symmetry and Stability of Matter and Antimatter” (Mainz, April 2009)

----- Member of an evaluation panel for the French activity P2I (Physique des deux infinis) held in April 2010. Panel Member of the ANR (Agency National Reserche, France) from 2018.

----- Member of the Evaluation panel for excellence Initiative for “Graduate Schools” for the German Research Foundation DFG (November 2011) - Member of the Cluster of excellence DFG panel in 2017.

----- Member of the Review Panel of the Helmholtz Institute in Julich (Julich, December 2017).

My activity as remote referee has been very intense.

**Job-related skills** My activity in Scientific committees of Laboratories and Institutes is listed below

- Chair of the International Program Advisory Committee of Nishina Center RIKEN (2017-)
- Chair of the Inter. Scientific Committee of the project HE-ISOLDE at CERN (2011- 2017)
- Chair of the International Scientific Council of the institute IRFU/CEA (France) (2013-2018) This council deals with all activities of the institute: astrophysics, astroparticle, particle, nuclear and accelerator physics, new technical developments and applications.
- Member of the Scientific Council of the ELI Facility (the pillar in Bucarest from 2015 to present).
- Member of the Scientific Committee of Nishina Center at the research institute RIKEN (Tokyo, Japan) (from 2008-2012). Member of the Program Advisory Committee of the RIKEN Nishina Center (2015-2016). Member of the RIKEN Advisory Committee(2019)
- Member of the Scientific committee of the cyclotron laboratory at IFJ in Cracow(from 2014 to present)
- Member of the Scientific committee of the Institute of Physics in Helsinki (Finland) (2018)
- Member of the Scientific Committee of French Institute IN2P3(CNRS Institute for Nuclear, Particle and astroparticle Physics)(2011- 2014) and member of the Scientific Committee of Nuclear Physics Institute at Orsay (IPNO) (2012-2016).
- Member of the Scientific Committee of the german Laboratory GSI (Darmstadt, Germany) (2009-2015) and of the Scientific Committee of the center of the Helmholtz Institute at Mainz (Germany) for Nuclear Physics (2009-2015).
- Member of the Scientific Council of the ELI Facility (the pillar in Bucarest from 2015 to present).
- Member of the Scientific Committee of Nishina Center at the research institute RIKEN (Tokyo, Japan) (from 2008-2012). Member of the Program Advisory Committee of the RIKEN Nishina Center (2015-2016). Member of the RIKEN Advisory Committee(2019)
- Member of the Scientific committee of the cyclotron laboratory at IFJ in Cracow(from 2014 to present)
- Member of the Scientific committee of the Institute of Physics in Helsinki (Finland) (2018-

**International Panels of Research Funding Agencies**

- Member of the expert panel for Nuclear and Particle physics of the Belgian Funding Agency FWO (from 2010-2018)
- Member of the expert panel of Academy of Finland Centre of Excellence Programme - Nuclear and Accelerator Based Physics (October 2010- September 2012, August 2018)
- Member of the committee for MICINN (Spanish ministry of Science and Innovation) for “ evaluación de proyectos de investigación 2011 del Plan Nacional” ( Madrid May 2011 and October 2017).
- Member of the Nuclear Physics Grants Panel of the Science and Technology Facilities Council in the UK (October 2010-June 2011, 2013-2015, 2016-2018)
- Member of a review panel for the USA Department of Energy DOE (Washington, Usa, 2018)
- Member of a grant selection panel for NSERC (Ottawa, Canada, from 2018)

**Other Past responsibilities and participation in Scientific committees of Laboratories, Institutes and Funding agencies**

- Member of the Working Group of OECD (Global Science Forum Organization for Economic Cooperation and development ) on Nuclear Physics (2006-2007)
- Member of the Scientific Committee of the laboratory GANIL (France (from 2007- 2010 )
- Member of the Scientific Review International Committee of the INFN LNL and LNS laboratories (2004- March 2008)
- Member of the scientific Advisory Committee (SAC) of the Facility SPIRAL2 (in the ESFRI list) from 2003 to 2005.
- Member of the Program Advisory Committee of the Laboratory “ National Accel.Center of Cape Town “ (from 2000 to 2002) and Member of the Program Advisory Committee of the CNRS Laboratory IRES in Strasbourg (from 1998 to 2002).

Digital skills	SELF-ASSESSMENT				
	Information processing	Communication	Content creation	Safety	Problem solving
	Independent user	Independent user	Independent user	Independent user	Independent user

Levels: Basic user - Independent user - Proficient user  
[Digital competences - Self-assessment grid](#)

Replace with name of ICT-certificates

- I acquire my competence during my research activity requiring use of computer and programming.

Other skills Teaching and outreach activity

Driving licence driving licence category B

ADDITIONAL INFORMATION

Publications  
 Presentations  
 Conference seminars  
 Outreach

- Co-author of 220 research papers on scientific journals (including 27 PRL+28 PLB, a Phys. Report and a Report in Progress Physics) plus approximately 160 papers on proceeding volumes (many in special volumes of scientific journals), (h factor 38).  
 The number of coauthors varies from 10 to around 50 which is typical for the field in which I carry out my research.
- Presentation of 76 invited talks at international workshops and conferences (2 summary talks, and two keynote talk at 4 large conferences, EMIS2012, ARIS2014 and NN2015 and Zakopane2016 and one SIF relazione generale) plus 25 seminars given at Universities or Laboratories. Organization of 8 International Conferences.
- Author (with two other colleagues) of a book “Giant Resonances: Nuclear structure at finite temperature” belonging to the series “Contemporary Concepts in Physics”
- Editor for 4 volumes of Conference Proceedings, one volume being lectures of the Enrico- Fermi School in Varenna of the Italian Physical Society.
- Referee of several papers in different scientific journals.
- Outreach activity: Editor in chief of Nuclear Physics News; Contributor to the journal Asimmetrie of INFN, Notiziario Università di Milano. Member of scientific committee of Energy-Lab in Lombardia.

Editor of Sci. Journals

- *Co-editor of European Physics Letters (EPS journal) (2015-) and Supervisory Editor of the international scientific journal Nuclear Physics A (Elsevier) (2018-)*

Honours and awards

Member of Academia Europaea -selected in the Physical Engineering Science Panel  
 Member of the executive committee of the European Physical Society

ANNEXES

- **Short description of the scientific activity and selected publications.**

Personal information I authorize the handling of personal information in this curriculum, according to D.Lgs n. 196/03 and following modifications and Regulations EU 679/2016 (General Regulations concerning Data Protection or GRDP) and art. 7 of University Regulations concerning protection of personal information.

I authorize, according to D.lgs 14/03/2013 n. 33 concerning transparency, in case of conferment of the position and of the fellowship, the publication of this curriculum in the web site of Università degli Studi di Milano in the section "Amministrazione trasparente", "Consulenti e collaboratori".

Date

Signature

10 November 2018



## ANNEX : Short description of the scientific activity and selected publications.

### *Short description of the scientific activity*

The research activity starting from 1985 is in experimental nuclear physics with focus in the field of Nuclear Structure and reaction dynamics. Before, and in particular during the PH.D work, research was made to study the nucleon force and the nucleon few-body problem with reactions induced by intermediate energy protons (at the laboratory TRIUMF, Vancouver Canada).

Most of the experimental work of my research activity was made employing heavy ions reactions and gamma spectroscopy. In this connection the research was and is being carried out as a member of several European collaborations around large detector arrays for gamma-ray spectroscopy. The most recent collaboration is AGATA, an array for gamma-ray spectroscopy based on a novel tracking technique. The first phase of the AGATA array, called demonstrator, was constructed and pilot experiments were carried out in LNL-INFN, GSI and GANIL. I am presently involved in experiments for the study of Giant Resonances in RIKEN and Osaka, Japan.

In the past years I was member of the international collaborations NORBALL and HECTOR (Niels Bohr Institute, Copenhagen) and GASP (LNL-INFN, Legnaro-Padova) and of the much larger European collaboration EUROBALL (operating during 1996-2002 at LNL-INFN and Strasbourg).

After 2002, using a large fraction of the EUROBALL equipment, two new experimental set ups were constructed, RISING(GSI) and PRISMA-CLARA (at LNL). The RISING collaboration has conducted very new studies of unstable nuclei with radioactive beams at the laboratory GSI (Darmstadt-Germany).

Personal contributions of some relevance were given in the experimental data taking and they concern the study of the properties of collective nuclear excitations at the extreme conditions of thermal excitation, angular momentum and isospin. Indeed a number of experiments dedicated to the study of the gamma decay of the giant dipole resonances were performed under the Milano responsibility. Interesting results on nuclear structure at finite temperature were obtained using the above large arrays and including additional detectors for high energy gamma-rays, developed and constructed with my group in Milano.

Presently within the AGATA international collaboration, I am committed in the realization of new ancillary detectors to study nuclear degrees of freedom identified with high-energy gamma-ray emission. These studies are relevant to understand the response for high frequency small amplitude vibrations in the region around the nucleon binding energy. They are also important for the description of the nucleosynthesis of elements following explosions of super-novae.

Additional experimental work, still in the field of nuclear structure with gamma spectroscopy, was made during the years at ANL(Chicago,USA) with the array Gammasphere and GANIL(Caen, France) with the array EXOGAM.

With all these activities the group of Milano, that I have been coordinating for the last 25 years, has gained a well recognized expertise in the field of nuclear structure at finite temperature. The expertise is also in the development of experimental and analysis techniques necessary to study continuum spectra emitted from nuclear rotations and vibrations. The experimental activities planned for the future are in international collaborations and concern the investigation of collective modes in nuclei far from stability, which are mostly created using radioactive beams (from SPES\_INFN, CERN-ISOLDE and GANIL-SPIRAL2).

The construction phases of the complex detector arrays, mentioned above, required relations and common developments with companies dealing with detectors, mechanics, electronics and computers.

***In this research field she supervised the activity of 10 post-doctoral fellows. One fellowship was obtained from funding from industry (from CAEN)***

A good fraction of the master and Ph.D supervised students, with research projects within the above collaboration, have now positions at the University of Milano, at INFN, in foreigner research institutions, and as managers in companies performing research.

## Research collaborations

- Member of the Steering Committee of the AGATA European collaboration for nuclear spectroscopy with gamma-rays (from 2009-...)
- Member of the Steering Committee of the RISING collaboration at GSI from 2002 to 2005 (gamma spectroscopy with radioactive beams at GSI).
- Member of the Steering Committee of EUROBALL (Large European Collaboration for gamma spectroscopy) (from 1996 to 1999)
- National responsible of INFN Nuclear Physics experiments (named HECTOR, PRIAMO, PARIDE from 1992-1998 dealing with the study of giant resonances) and responsible for Milano of the INFN experiments named EUROBALL and AGATA (1999-2005)
- Scientific Responsible of the project SPES (2001-2005). In 2005 I left the responsibility because in conflict with the chairship of the scientific committee of Nuclear Physics of INFN (CSN3).

Visitor Scientist at TRIUMF (1984); at Oak Ridge National Laboratory (in 1985 and in 1986); at the Niels Bohr Institute (Copenhagen) for several periods of 2 to 3 months from 1987 to 2005.

## Activity in Organization of Conferences and workshops

- I have organized 8 international conferences including one Enrico Fermi School in 2010 (Varenna) I have also organized meetings for the EU-Eranet NuPNET project and several other collaboration meetings. Organization in Milano of the Symposium Italy-RIKEN in 2012 and of NuSTAR week in September 2018.
- I was member of the International Advisory Committees of several (28) International Conferences.
- Chair of the Program Committee of the international Nuclear Physics Conference INPC2013 (this is the largest conference in the field, covering all topics of modern Nuclear Physics, some at the boundary with particle and astroparticle physics) and of EuNPC 2018 (Bologna)
- Responsible in 2014 of the section on “ Nuclear and Particle Physics” for the annual meeting of SIF (Società Italiana di Fisica).

## Relation with industry and technology transfer

During the time I was chair of the Nuclear Physics Board of INFN I had the chance to interact directly or indirectly with industries and companies involved in the construction of our detection systems. In addition with my group in Milano we are developing detectors and related electronics (particularly scintillators) for nuclear spectroscopy in basic science and applications. In this context we have had for several years contacts and collaborations with companies and industries. Recently, the company CAEN showed much interest in developing together with our group a commercial version of an electronics module for scintillators, whose main structure was designed at the Milano INFN section for our applications. This resulted in *the funding by CAEN of a post-doctoral fellowship and in a technology transfer agreement (with royalties for INFN) for the electronics module.*

## Selected publications of Angela Bracco (out of >200 co-authored in refereed journals)

1) Is seniority a partial dynamic symmetry in the first  $vg(9/2)$  shell? Morales, A. I.; Benzoni, G.; Watanabe, H.; .... A.Bracco et al. PHYSICS LETTERS B 781(2018)706.



- 2) Observation of isoscalar and isovector dipole excitations in neutron-rich O-20, Nakatsuka, N.; Baba, H.; Aumann, T.; A. Bracco et al. PHYSICS LETTERS B768 (2017) 387.
- 3) *Isospin Mixing in Zr-80: From Finite to Zero Temperature*, Ceruti, S.; Camera, F.; Bracco, A.; et al. PHYSICAL REVIEW LETTERS 115 (2015) 222502.
- 4) *Gamma decay of pygmy states from inelastic scattering of ions*, Bracco, A.; Crespi, F. C. L.; Lanza, E. G. EPJA 51(2015)99.
- 5) *Pygmy dipole resonance in Sn-124 populated by inelastic scattering of O-17*, Pellegrini, L.; Bracco, A.; Crespi, F. C. L.; et al. PHYSICS LETTERS B (2014) Volume: 738 Pages: 519-523
- 6) Isospin Character of Low-Lying Pygmy Dipole States in Pb-208 via Inelastic Scattering of O-17 Ions, Crespi, F. C. L.; Bracco, A.; Nicolini, R.; et al. PHYSICAL REVIEW LETTERS (2014) Volume: 113 Issue: 1 Article Number: 012501
- 7) Concluding remarks on the EMIS2012 conference, Bracco, Angela NIM 317 (2013) 317, 810.
- 8) Evidence for the Dipole Nature of the Low-Energy gamma Enhancement in Fe-56, Larsen, A. C.; Blasi, N.; Bracco, A.; et al. PHYSICAL REVIEW LETTERS 111(2013), 242504 .
- 9) *"The Pygmy Dipole Resonance in 68Ni and the neutron skin"*, O. Wieland and A. Bracco, Progress in Particle and Nuclear Physics Vol. 66(2011)374
- 10) *"Constraints on the symmetry energy and neutron skins from pygmy resonances in 68Ni and 132Sn"* A. Carbone, G. Colo, A. Bracco, L. Cao, P. F. Bortignon, F. Camera and O. Wieland, Phys. Rev. C 81 (2010) 041301(R)
- 11) *"Probing the nature of particle-core couplings in 49Ca with  $\gamma$  spectroscopy and heavy-ion transfer reactions"*, D. Montanari, S. Leoni, D. Mengoni, G. Benzoni, N. Blasi, G. Bocchi, P. F. Bortignon, A. Bracco, F. Camera, G. Colo, A. Corsi, F. C. L. Crespi, B. Million, R. Nicolini, O. Wieland, J. J. Valiente-Dobon, L. Corradi, G. de Angelis, F. Della Vedova, E. Fioretto, A. Gadea, D. R. Napoli, R. Orlandi, F. Recchia, E. Sahin, R. Silvestri, A. M. Stefanini, R. P. Singh, S. Szilner, D. Bazzacco, E. Farnea, R. Menegazzo, A. Gottardo, S. M. Lenzi, S. Lunardi, G. Montagnoli, F. Scarlassara, C. Ur, G. Lo Bianco, A. Zucchiatti, M. Kmiecik, A. Maj, W. Meczynski, A. Dewald, Th. Pissulla, G. Pollarolo, Phys. Lett. B 697, 288 (2011)
- 12) *"Search for the Pygmy Dipole Resonance in Ni-68 at 600 MeV/nucleon"*, Wieland, O; Bracco, A; Camera, F; Benzoni, G; Blasi, N; Brambilla, S; Crespi, FCL; Leoni, S; Million, B; Nicolini, R; Maj, A; Bednarczyk, P; Grebosz, J; Kmiecik, M; Meczynski, W; Styczen, J; Aumann, T; Banu, A; Beck, T; Becker, F; Caceres, L; Doornenbal, P; Emling, H; Gerl, J; Geissel, H; Gorska, M; Kavatsyuk, O; Kavatsyuk, M; Kojouharov, I; Kurz, N; Lozeva, R; Saito, N; Saito, T; Schaffner, H; Wollersheim, HJ; Jolie, J; Reiter, P; Warr, N; deAngelis, G; Gadea, A; Napoli, D; Lenzi, S; Lunardi, S; Balabanski, D; LoBianco, G; Petrache, C; Saltarelli, A; Castoldi, M; Zucchiatti, A; Walker, J; Burger, A, PHYS REV LETT(2009)51
- 13) *"Probing the order-to-chaos region in superdeformed Tb-151 and Pb-196 nuclei with continuum gamma transitions"*, Leoni S, Benzoni G, Blasi N, Bracco A, Brambilla S, Camera F, Corsi A, Crespi FCL, Mason P, Million B, Montanari D, Pignanelli M, Vigezzi E, Wieland O, Matsuo M, Shimizu YR, Curien D, Duchene G, Robin J, Bednarczyk P, Castoldi M, Herskind B, Kmiecik M, Maj A, Meczynski W, Styczen J, Zieblinski M, Zuber K, Zucchiatti A, PHYSICAL REVIEW LETTERS 101( 14): - 142502 (2008)
- 14) *"Giant dipole resonance in the hot and thermalized Ce-132 nucleus: Damping of collective modes at finite temperature"* Wieland O, Bracco A, Camera F, Benzoni G, Blasi N, Brambilla S, Crespi F, Giussani A, Leoni S, Mason P, Million B, Moroni A, Barlini S, Kravchuk VL, Gramagna F, Lanchais A, Mastinu P, Maj A, Brekiesz M, Kmiecik M, Bruno M, Geraci E, Casini G, Chiari M, Nannini A, Ordine A, Ormand E, PHYSICAL REVIEW LETTERS 97(2006)( 1)012501 .
- 15) *"Is the K quantum number conserved in the order-to-chaos transition region?"* G. Benzoni, A. Bracco, S. Leoni, N. Blasi, F. Camera, C. Grassi, B. Million, A. Paleni, M. Pignanelli, E. Vigezzi, O. Wieland, M. Matsuo, T. Døssing, B. Herskind, G. B. Hagemann, J. Wilson, A. Maj, M. Kmiecik, G. Lo Bianco, C. M. Petrache, M. Castoldi, A. Zucchiatti, G. De Angelis, D. Napoli, P. Bednarczyk, D. Curien, Phys. Lett. B. 615(2005)160.
- 16) *"Radiative fusion from very symmetric reactions: the giant dipole resonance in the 197Au nucleus"* F. Camera, A. Bracco, V. Nanal, M. P. Carpenter, F. Della Vedova, S. Leoni, B. Million, S. Mantovani, M. Pignanelli, O. Wieland, B. B. Back, A. M. Heinz, R. V. F. Janssens, D. Jenkins, T. L. Khoo, F. G. Kondev, T. Lauritsen, C. J. Lister, B. McClintock, S. Mitsuoka, E. F. Moore, D. Sewerlyal, R. H. Siemssen, R. J. Van Swol, D. Hofman, M. Thoennessen, K. Eisenman, P. Heckman, J. Seitz, R. Varner, M. Halbert, I. Dioszegi, A. Lopez-Martens, Phys. Lett. B560 (2003)155.
- 17) *"Effect of E1 decay in the population of superdeformed structures"*- G. Benzoni, A. Bracco, F. Camera, S. Leoni, B. Million, A. Maj, A. Algora, A. Axelsson, M. Bergstrom, N. Blasi, M. Castoldi, S. Frattini, A. Gadea, B. Herskind, M. Kmiecik, G. Lo Bianco, J. Nyberg, M. Pignanelli, J. Styczen, O. Wieland, M. Zieblinski, A. Zucchiatti, Phys. Lett. B540 (2002)199.
- 18) *"High-lying collective rotational states in nuclei"*, Bracco, A. and Leoni, S., REPORTS ON PROGRESS IN PHYSICS 65,2 (2002) 2, 299.

- 19) "Quantum tunneling of the excited rotational bands in the superdeformed nucleus  $^{143}\text{Eu}$ " S. Leoni, A. Bracco, F. Camera, B. Million, A. Algora, A. Axelsson, G. Benzoni, M. Bergstrom, N. Blasi, M. Castoldi, S. Frattini, A. Gadea, B. Herskind, M. Kmiecik, G. Lo Bianco, A. Maj, J. Nyberg, M. Pignanelli, J. Styczen, E. Vigezzi, M. Zieblinski, A. Zucchiatti. Phys. Lett. B498(2001)137.
- 20) "Fission hindrance in  $^{200}\text{Pb}$  measured from giant dipole resonance  $\gamma$ -ray emission" I. Dioszegi, N.P. Shaw, A. Bracco, F. Camera, S. Tettoni, M. Mattiuzzi and P. Paul, Phys. Rev. C63(2000)014611.
- 21) "Measurement of 15 MeV  $\gamma$ -rays with Ge cluster detectors of EUROBALL" B. Million, A. Bracco, F. Camera, S. Brambilla, A. Gadea, D. Giugni, B. Herskind, M. Kmiecik, R. Isocrate, S. Leoni, A. Maj, F. Prelz and O. Wieland Nucl. Inst. Meth. A452(2000)422
- 22) "Unresolved gamma-rays in  $^{114}\text{Te}$ : mass dependence of rotational damping" S. Frattini, A. Bracco, S. Leoni, F. Camera, B. Million, N. Blasi, G. LoBianco, M. Pignanelli, E. Vigezzi, B. Herskind, T. Dossing, M. Bergstrom, P. Varmette and S. Tormanen, A. Maj, M. Kmiecik, D.R. Napoli and M. Matsuo Phys. Rev. Lett. 83 (1999) 5234.
- 23) Nuclear Structure at Finite Temperature P.F. Bortignon, A. Bracco and R.A. Broglia, Harwood Academic Publishers, Amsterdam (1998), volume della collana Contemporary Concepts in Physics.
- 24) "The Rotational Quadrupole Moment of Thermally Excited High Spin States in  $^{164}\text{Yb}$ ", S. Frattini, A. Bracco, S. Leoni, P. Bosetti, B. Herskind, T. Dossing, M. Bergstrom, G.B. Hagemann, H. Ryde, J.P. Vivien, A. Bagshaw, D. Smalley and A.G. Smith, Phys. Rev. Lett. 81(1998)2659.
- 25) "Possible Conservation of the K-Quantum Number in Excited Rotating Nuclei" P. Bosetti, S. Leoni, A. Bracco, B. Herskind, T. Dossing, G.B. Hagemann, R. Bark, A. Brockstedt, P. Ekstrom, H. Carlsson, A. Nordlund, H. Ryde, F. Camera, S. Frattini, M. Mattiuzzi, B. Million, D. Bazzacco, R. Burch, G. de Angelis, D. De Acuna, M. de Poli and P. Pavan, Phys. Rev. Lett. 76 (1996)1204.
- 26) "Fluctuation Analysis of Rotational Spectra." T. Dossing, B. Herskind, S. Leoni, M. Matsuo, A. Bracco, R. A. Broglia, and E. Vigezzi, Phys. Report 268(1996)1-84.
- 27) "Microscopic Simulations of gamma-cascades in warm rotating nuclei", A. Bracco, P. Bosetti, S. Frattini, E. Vigezzi, S. Leoni, T. Dossing, B. Herskind, M. Matsuo, PRL 76, (1996)4484.
- 28) "Increase of the width of the Giant Dipole Resonance in hot Nuclei: Shape Change or Collisional Damping?" A. Bracco, F. Camera, M. Mattiuzzi, B. Million, M. Pignanelli, J.J. Gaardhoje Z. Zelazny, T. Ramsøy, T. Tveter and A. Maj Phys. Rev. Lett. 74(1995)3748.
- 29) "Limiting Temperature for the Existence of Collective Motion in Hot Nuclei." P.F. Bortignon, A. Bracco, D. Brink, and R. A. Broglia, Phys. Rev. Lett. 67(1991)3360.
- 30) "Saturation of the width of the giant dipole resonance at high temperature", A. Bracco, J.J. Gaardhoje, A. Bruce, J.D. Garret, B. Herskind, M. Pignanelli, D. Barneoud, H. Nifenecker, J.A. Pinston, C. Ristori, F. Schussler, J. Bacelar, and H. Hofmann, Phys. Rev. Lett. 62 (1989)2080.
- 31) "Study of the breathing mode of  $^{208}\text{Pb}$  through Neutron decay." A. Bracco, J.R. Beene, N. Van Giai, P.F. Bortignon, F. Zardi, and R. A. Broglia, Phys. Rev. Lett. 60(1988)2603.
- 32) "Study of The Two-Nucleon Wave Function in  $^3\text{He}$ ." A. Bracco, H.P. Gubler, D.K. Hasell, W.T.H. van Oers, M.B. Epstein, D.J. Margaziotis, R. Abegg, C.A. Miller, and P. Schwandt, Phys. Rev. Lett. 50(1983)1741.



