



"CHANNELING 2012"
CHARGED AND NEUTRAL PARTICLES CHANNELING PHENOMENA
Alghero (SS) Italy, September 23-28, 2012
Chairmen: S.B. DABAGOV, AND L. PALUMBO

"Channeling 2012"
5th International Conference
Charged and Neutral Particles Channeling Phenomena

Alghero (SS), Italy

September 23-28, 2012

<http://www.lnf.infn.it/conference/channeling2012>

organized by

Istituto Nazionale di Fisica Nucleare – Laboratori Nazionali di Frascati

in cooperation with and sponsored by

SIF – the Italian Physical Society

HadronPhysics3 – the FP7 EU Project

LPI RAS – P.N. Lebedev Physical Institute RAS, Russia

NRNU MEPhI – National Research Nuclear University, Russia

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The international conferences "Charged and Neutral Particles Channeling Phenomena" (known by the acronym "Channeling"), organized by the National Institute for Nuclear Physics (INFN), are the meetings devoted to the discussion on the advances in physics of coherent and incoherent scattering of hadrons and leptons (protons, ions, electrons, muons and related antiparticles) in matter of various structures, amorphous and crystalline. The topics of our meetings covers fundamental aspects of the studies, theoretical and experimental, together with several wide-used techniques for applications in scientific instrumentation as well as for experiments at famous accelerator centres; recently the number of applications in radiation physics have been also announced.

The first two meetings of our series, "[Channeling 2004](#)" and "[Channeling 2006](#)", were held at the National Laboratories of Frascati (LNF INFN), and had shown growing interest of various world research centres in renew of collaboration programs, the history of which counts more than 30 years. Successfully, we were invited to organize a special workshop at the [Erice Majorana Centre](#) (Erice - Sicily, Italy) as the 51st Workshop within the framework of INFN Eloisatron Project, namely the 3rd meeting, "[Channeling 2008](#)". The 4th conference was hosted by University of Ferrara in 2010 - "[Channeling 2010](#)", and collected more than 140 presentations, including invited lectures as well as oral and poster reports, the number of participants was more than 150.

Since the first Channeling meeting we have prepared four books of the proceedings. The proceedings of the Frascati's conferences were issued by SPIE - the International Society for Optical Engineering (Proc. of SPIE, [Vol. 5974](#) and [Vol. 6634](#)), while the Erice's meeting - by the World Scientific Publishing, as a [special issue of "The Science and Culture Series - Physics"](#) . The Channeling 2010 proceedings were published by the Italian Physical Society as a [special volume of Nuovo Cimento C](#) , and separately as a book "Channeling 2010". The total number of published scientific papers exceeds 250.

The Channeling conference represents a unique opportunity for the wide interdisciplinary community to gain information about current and future research projects in the field of beams/radiations interaction in solids as well as radiations propagation in various micro- and nanochannel structures. In particular, these series become important for young scientists who have interest in undertaking new investigations following the foreseen development of the next



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generation photon sources, as well as an important opportunity for exploring and discussing new international initiatives in radiation penetration science, such as channeling of beams/radiations and related studies.

The scientific program of conference will include invited talks, oral and poster presentations as well as informal discussion round tables.

Conference topics:

- Coherent phenomena of relativistic charged particles scattering in matter;
- Radiation of relativistic particles in periodic structures (coherent bremsstrahlung, channeling radiation, resonant transition radiation, diffraction radiation, parametric x-ray radiation, LPM effect);
- Crystal channeling, volume capture and reflection for relativistic hadrons and leptons;
- Channeling of radiations in capillary systems (micro- and nano-channeling, nanotubes, nanoporous solids);
- Novel types of sources for electromagnetic radiation (FEL, Thomson scattering, laser plasma acceleration; x-ray optics);
- Advances in x-ray and neutron optics (capillary/polycapillary optics, compound refractive optics, micro- and nanofocusing, waveguides)
- Applications of channeling phenomena (beams deflection, positron sources, powerful radiation sources, novel x-ray table-top instruments)

International Advisory Committee

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Technical Program, Abstracts, and Proceedings

The scientific program of the conference will include invited presentations by the experts in the field of the “Channeling 2012” topics, selected oral presentations, and poster sessions.

Each author is requested to submit a camera-ready copy of the abstract of contribution in English **by June 30** via e-mail channeling2012@lists.lnf.infn.it

Authors are kindly required to follow *the guidelines for Abstracts of Invited, Oral or Poster Contributions* (in doc, LaTeX, or pdf formats (the preference is for LaTeX file); the templates of these formats are online available via the links on the page <http://www.lnf.infn.it/conference/channeling2012/downloads.html>). Please, save and submit the abstract under your family name typed in small letters, e.g. **abstract_smith.***** submitted by Dr. Smith.

Abstracts of all accepted papers (both oral and poster) will be published in the Advanced Program and distributed to all participants at registration. Post deadline abstracts will not be published.

The conference proceedings will be published as a special issue in one of the international referred journals. The deadline for the manuscript submission will be announced during the meeting. For further information or questions, please, contact the Organizing Committee by channeling2012@lists.lnf.infn.it.

Registration & Fee & Accommodation

Conference fee:

- 350 € for regular participant,
- 100 € for accompanying person -

includes the attendance of all conference sessions, conference bag, contents and abstract & proceedings books, welcome reception, coffee break, conference excursion, events included in the social program. The Organizing Committee will consider granting limited number of students or young researchers. The interested persons should specify their requests compiling the field “*Any other information or special requirements*”.

Participants are invited to register to the conference by filling in the online Registration Form (please, visit the official conference web site: <http://www.lnf.infn.it/conference/channeling2012/registration.html>). All details of your participation must be reported on the registration form to be evaluated by the Organizing committee and conference secretaries.

Participants should arrange their own accommodation contacting the hotel Calabona directly quoting “**Channeling 2012**”. All necessary information on booking procedure is online published; please, follow the link for the details: <http://www.lnf.infn.it/conference/channeling2012/accommodation.html>.

Important dates

Abstract submission	by June 30
Manuscript submission	to be announced later (preferably by September 28)
Hotel reservation	by July 15 (participants are requested to secure a room as soon as possible)
Registration	by September 22



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How to get to the conference

Channeling 2012 will take place in the town of Alghero, on the beautiful Italian island of Sardinia, the beautiful “Catalan” town of Italy, famous for its mixed culture, half Catalan and half Sardinian, due to 4 centuries of Spanish domination. The meeting venue, [the Hotel Calabona](#), faces the splendid Riviera del Corallo (Riviera of Coral) and offers a spectacular view of Capo Caccia. A short walk along the sea takes you to the historical center of the Catalan town of Alghero, with many interesting monuments, restaurants, and shops.

By Airplane

[The airport of Alghero-Fertilia](#) has direct flights to the main Italian cities and various European capitals. Low-cost airlines (Ryanair, etc.) offer very economical flights direct to Alghero from many European cities. Alitalia and AirOne offer direct flights from Rome, Milan and other Italian airports.

AirOne (Alitalia affiliated) from
Milano Malpensa (MXP);

Meridiana from
Bari (BRI), Milano Linate (LIN), Verona (VRN);

Ryanair from
Barcelona (BAR), Brussels Charleroi (CRL), Dublin (DUB), Düsseldorf Weeze (NRN), Frankfurt-Hahn (HHN), Gothenburg City (GSE), London-Stansted (STN), Madrid (MAD), Milano-Bergamo (BGY), Munich West (MUN), Oslo Torp (TRF), Paris-Beauvais (BVA), Rome-Ciampino (CIA), Stockholm-Skavsta (NYO), and others.

Note that some of these are "secondary" airports, which are often not served by international airlines.

The airport is a 15 minutes drive from the town and car rental is available from the airport. There are also regular buses or taxis from the airport to town. You can take a taxi to the Calabona Hotel (the meeting place) for about 20 Euro, or take the bus No.9 to the Alghero station. It passes every 30 min. and costs about 1 Euro one way.

By Ferry

If you enjoy the ferry rides, it makes for a great trip to come to Sardinia with the ferry either using public transport throughout or by car.

The nearest port is Porto Torres, where ferries arrive from Genoa, Civitavecchia, Marseille and Barcelona. Some routes are only seasonal.

- **Grandi Navi Veloci** sails from Genova to Porto Torres, where a bus meets the ferry and brings you to Alghero (about 30 min; get the bus ticket at the little ticket office before you board the bus). One ferry sail at night and one during the day (9-10 hours). Round trip costs about 100 Euro per person without a car, or from 200 Euro for two persons with a small car (cabin extra).
- **Tirrenia di Navigazione** also sails from Genova to Porto Torres, and it is generally a bit cheaper than Grandi Navi Veloci. Tirrenia only sails at night. The trip takes 9-10 hours and a roundtrip costs from 200 Euro for two persons with a small car. A cabin is an extra 150 Euro for both ways.
- **Corsica Ferries** sail from Livorno or Civitavecchia to Golfo Aranci (Olbia) on the northeast side of Sardinia. The trip takes 5-6 hours and a roundtrip costs from 120 Euro for two persons with a small car. To drive from Olbia to Alghero takes about two hours.
- **Moby Lines** sail from Genova or Livorno to Golfo Aranci (Olbia), on the northeast side of Sardinia. The trip takes around 9 hours and a roundtrip costs from 100 Euro for two persons with a car. To drive from Olbia to Alghero takes about two hours.



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Contact information

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Instructions to Authors of Abstracts for Oral or Poster Contributions:

The Title is Written in Bold, Times New Roman 12, Centered

Authors are cited in Times New Roman 12, centered: Author xxx, Author yyy*
Institute or laboratory: Times New Roman 10, centred: xxx, *yyy

There must be one blank line between the title, the authors' names and their affiliation and two blank lines between the affiliation and the beginning of the body text without any punctuation mark at the end of these lines. Authors and affiliation must not exceed one line each. The name of the corresponding author is underlined.

All abstracts must be written in English and occupy a maximum of 1 page A4 written in Times New Roman 12, alignment in mode “justify”. Please make sure to respect the following margins: top, bottom, right: 25 mm; left: 30 mm.

Reference citations [1] are shown in the text by a number in brackets and follow one double space below the body text under the heading “References”.

No figures, images or photos have to be included in the abstract.

In order to ensure a smooth abstract booklet preparation, please do not insert text or references in “footnote” mode or other encoding.

References

[1] The heading “References” follows one double space below the body text in Times New Roman 10 bold. Reference citations are shown in the text by a numeral in brackets and cited under the heading “References”.

[2] L.J. Marshal, and G. Talleni, Phys. Rev. A **43** (2001) 5897.

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