



Carpathian Summer School of Physics 2010

Exotic Nuclei and Nuclear/Particle Astrophysics (III)

“From nuclei to stars”

June 20 – July 3, 2010, Sinaia, Romania

3rd and final circular

Organizers

“Horia Hulubei” National Institute for Physics and Nuclear Engineering (IFIN-HH) and Horia Hulubei Foundation (FHH), Bucharest-Magurele, Romania, Cyclotron Institute, Texas A&M University (TAMU), College Station, Texas, USA, The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy

Topics:

- **Exotic Nuclei**
- **Experiments with rare isotope beams**
- **Double beta decay**
- **Issues in nuclear astrophysics**
- **Nucleosynthesis**
- **Neutrino properties and new neutrino experiments**
- **The sun and solar neutrinos**
- **Supernova neutrinos**
- **Cosmic rays and neutrinos**
- **Dark matter**

International Advisory Committee: B. Alex Brown (East Lansing), H. Ejiri (Osaka), A. Giuliani (Insubria), W. Haxton (Berkeley), J. Jose (Barcelona), K. Langanke (Darmstadt), M. Lindner (Heidelberg), Z. Majka (FAIR), T. Motobayashi (Tokyo), H. Rebel (Karlsruhe), C. Rolfs (Bochum), H. Schatz (East Lansing), G. Senjanovic (ICTP), B. Sherill (FRIB), C. Spitaleri (Catania), R. E. Tribble (Texas A&M), P. Vogel (CALTECH), M. Wiescher (Notre Dame), A. Wolfendale (Durham), P. J. Woods (Edinburgh), N. V. Zamfir (Bucharest).

Organizing Committee: Alexei Yu. Smirnov (ICTP), Sabin Stoica (IFIN-HH, FHH) and Livius Trache (TAMU/IFIN-HH) - directors

Adriana Banu (TAMU/IFIN-HH), Florin Carstoiu (IFIN-HH), Mihai Mirea (IFIN-HH)

Andrei Neacsu (IFIN-HH), Horia Petrascu (IFIN-HH), Gabriel Tabacaru (TAMU/IFIN-HH)

Invited lecturers:

N. Auerbach (Tel Aviv), C. Bertulani (Texas A&M Commerce), A. Bonaccorso (Pisa), B. A. Brown (MSU), F. Carstoiu (IFIN-HH, Bucharest), M. Cirelli (Saclay), R. Cyburt (JINA), H. Ejiri (Osaka), F. von Feilitzsch (TUM), F. Ferroni (Roma-Sapienza), B. Fields (Urbana), G.M. Fuller (San Diego), G. Giacomelli (Bologna), F. Halzen (Madison), M. Horoi (CMU), F. Ibrahim (Orsay), C. Iliadis (North Carolina & TUNL), J. Kisiel (Silesia), K-L Kratz (Mainz), L. Labarga (Madrid), I. Lazanu (Univ. of Bucharest), Z. Majka (FAIR), N. Marginean (Bucharest), F. Mantovani (Ferrara), I. Mocioiu (Penn State), L. Mosca (Saclay/LSM), T. Motobayashi (Tokyo), J. Natowitz (Texas A&M), F. Negoita (IFIN-HH, Bucharest), K. Nishikawa (KEK), G. Pascovici (Cologne), C. Pena-Garay (Valencia), A. Petrovici (IFIN-HH, Bucharest), J. Pinfold (Alberta & CERN), L. Popa (ISS, Bucharest), V. Popa (ISS, Bucharest), C. Rolfs (Bochum), E. Roulet (Bariloche), A. Rubbia* (Zurich), B. Rubio (Valencia), S. Shlomo (Texas A&M), G. Sigl (Hamburg), O. Sima (Univ. of Bucharest), A. Yu. Smirnov (ICTP), C. Spitaleri (Catania), N. Spooner* (Sheffield), L.G. Sobotka (St. Louis), S. Stoica (Bucharest), J. Suhonen (Jyvaskyla), M. Thoenessen (MSU), L. Trache (Texas A&M), R.E. Tribble (Texas A&M), W. Trzaska (Jyvaskyla), C. Volpe (Orsay), P.J. Woods (Edinburgh). * to be confirmed

Sponsors: *ICTP, National Authority for Scientific Research, Bucharest ROMANIA, Central European Initiative, IFIN-HH, TAMU*



General information:

This is the final circular for the **Carpathian Summer School of Physics 2010** that is organized June 20- July 3, 2010 in Sinaia, Romania. It will be posted on our websites <http://cyclotron.tamu.edu/cssp10/> and <http://zamolxes.theory.nipne.ro/cssp10/> and sent to participants only. The short form program in its latest version will be posted on the same sites. This circular gives final information and advice for the participants already confirmed.

The invited talks will be 1 hour long, discussions and a 5 min break included. The oral presentations will be of 20 min, with 3 min included for discussions.

The conference will be held in Sinaia, a year-round mountain resort in the heart of the Carpathians, about 130 km north of Bucharest, less than 2 hours drive from the main international airports of Romania (Bucharest-Otopeni, or OTP and Baneasa, or BBU).

The title, the major topics, the organizers and IAC, as well as the list of invited lecturers are given on the first page. This part is to give other practical information.

There are two **special events** imbedded in the school:

Round table: A special outreach session in a round table format is being planned for the **afternoon of Saturday June 26**. The subject chosen this year is: **“Science and society. Do (all) countries need science?!”**. For this session officialities of the host country involved in the research policy and in the management of research and higher education, politicians and representatives of media are invited to join the CSSP10 participants in open discussions on the above subject. The session will be followed by the school’s banquet.

Session on the LAGUNA project, on Thursday July 1st.

Venue, attractions

The conference will be held in the conference center of Hotel International**** (<http://www.international-sinaia.ro>) in **Sinaia**. Sinaia is “the Pearl of the Carpathians”, the summer residence of the late Romanian kings and of the past (and present) aristocracy. It is close to the geographical centre of the country, itself a prime tourist attraction and in close proximity to many first class natural and historical attractions of Romania. Extra activities, from visiting the Peles Castle with its beautiful art collection or the open-air folklore exhibit and market, to dinning and wining at restaurants with live Romanian and international music, to mountain climbing, are all available within walking distance, in Sinaia.

Accommodation

The venue of the school will be Hotel International**** (<http://www.international-sinaia.ro>), a four star complex, where the participants *will be accommodated in single and double rooms and in luxury flats at the following prices:*

Double room in single occupancy: 60 euro/day, about 260 lei (Romanian currency),

Double room in double occupancy: 33 euro/ person/day, about 142 lei

Deluxe double room: 80 euro/day, about 345 lei

*There will be also a limited number of luxury suites available at 120 euro/day. These prices are offered **only** if the participants are registered **via the organizers. Do not register directly with the hotel if you want the discounted rates! Breakfast is included in room’s price.***

*Lunches, buffet style, and coffee breaks will be served for all participants at the same hotel at **15 euro/day**. Dinners can be pre-arranged at the same hotel at **11 euro each**, or the participants can chose to manage by themselves with these meals at other restaurants that are available around, in walking distance.*

All major credit cards are accepted at the hotel and the restaurants in Sinaia.

A limited number of places in youth hostels can be made available at lower rates for students. Please, contact the organizers for advice on such arrangements.

Registration: at arrival participants will pay (cash only, lei and all major currencies accepted) the cost of lunches & coffee breaks, the cost of the proceedings (40 euro), as well as that of the dinners and social events they chose.

Fellowships: a number of fellowships were awarded to applying students and consist of full or partial local support for 2 weeks. The costs listed above are fully supported for the students granted full scholarship, as they were individually announced.

Abstracts/papers. A booklet of abstracts will be made available at the beginning of the School. The **proceedings of the conference** will be published in the *AIP Conference Proceedings*. The camera ready typescripts must be submitted to the organizers **by September 15th 2010**. The necessary templates can be downloaded from <http://proceedings.aip.org/outline/6x9> or will be provided by the organizers at school's desk. The page limits are 9 for invited lectures and 5 for communications.

Transportation.

To BUCHAREST. You can reach the Bucharest airport (OTP) ("Henri Coanda" International Airport Otopeni) by one of the numerous flights that connect the Romanian capital with the major European airports. Or you may fly into Baneasa airport (BBU) from many locations in Europe. OTP and BBU airports are close by.

From Bucharest to SINAIA. Participants who would like assistance with transportation to/from Sinaia were asked and are again asked here, if they did not do so already, to express this request and provide organizers with the exact dates/times of their arrival and departures. The cost will be 25 euro/way. On **Sunday, June 20th at 13:00 and at 17:00**, respectively, two minibuses were arranged to transfer the participants from the airport to the hotel in Sinaia. A school representative with a school poster will wait for you around the "Information" booth at the arrival gate. Return cars or minibuses will be arranged after your arrival in Sinaia.

By **rental car.** If you have reserved a car, or you want to rent one with the many agencies present in the airport, after you pick the car, you have to drive out of the airport complex, then turn right on **DN1 (E60)** in direction Ploiesti-Brasov. After about 100 km you reach Sinaia. Hotel International is on your left hand side on str. Avram Iancu, corner with M. Kogalniceanu str.

By **train.** There are train connections to Sinaia from all Europe. At the train station in Sinaia you can pick a taxi, or climb a flight of stairs from the station to the city level, then walk to your left for a few hundred meters to the hotel (which is going to be on your right).

If you arrive at the Bucharest (Otopeni) airport and do not have an arrangement for bus/car to Sinaia, you can take a taxi to the "Bucuresti Nord" (ask the taxi-driver for "Gara de Nord") railway station (~15km and ~10 euros), then the train until Sinaia (~125 km). Or, you may take the bus no. 780 to Gara de Nord (you go down to ground level at airport, buy a two-way ticket to town for 7 lei (< 2 euro) and board buses circulating 5:30 to 23:05 with ~ 15 min frequency).

The schedule of trains is included below: **Bucuresti to Sinaia (daily)**

Station of departure	Departure time	Arrival	Duration	Type
Bucuresti Nord	7:30	9:30	2 h 00 min	A 1745
Bucuresti Nord	8:30	10:25	1 h 55 min	R 831
Bucuresti Nord	9:50	11:49	1 h 59 min	A 1621
Bucuresti Nord	13:00	14:45	1 h 45 min	IC 531
Bucuresti Nord	15:15	17:16	2 h 01 min	R 827
Bucuresti Nord	15:15	17:19	2 h 04 min	R 346
Bucuresti Nord	17:40	19:41	2 h 01 min	A 1643
Bucuresti Nord	18:10	20:08	1 h 58 min	A 1741
Bucuresti Nord	19:10	20:56	1 h 46 min	R 472
Bucuresti Nord	19:10	20:56	1h 46 min	R 741
Bucuresti Nord	20:08	21:57	1 h 49 min	A 1631
Bucuresti Nord	20:40	22:38	1 h 58 min	A 1641

A: accelerat R: rapid IC: intercity

There are many other trains not tabulated above. Ask at the "Information" booth about the first train to Sinaia, and you will obtain the pertinent information.

Social events

During the school we shall also organize excursions and social events in order to create a nice atmosphere and to provide the participants with a flavour of Romanian landscape and culture. **School's banquet will take place on Saturday, June 26 after 7:00pm** in nearby Paraul Rece resort (outdoors and indoors). Next day, **Sunday June 27th, school's excursion** will take our guests across the mountain to old Transylvanian castles and cities, like the Bran castle ("Dracula's castle") and Brasov, with lunch in the Poiana Brasov ski resort. Other short excursions are possible by car, bus or train. The registration for these events will be made on site, at the secretariat desk, on arrival or after.

Useful information: Sinaia is at 800 m altitude. It is summer in June-July, but summer in the mountains. Temperatures may go to 30 C, and then down to 7 C. If you go on our website, click on "The venue" and at the lower right you'll see the current temperature in Sinaia, courtesy our webmaster. A pullover and a rain coat will prove to be valuable. Hiking can be a very rewarding pass-time activity, and you'll find from very easy to challenging trails in walking distance from the hotel. Prepare accordingly.

Currency: While many prices may be quoted in euros, no, Romania is not yet in the euro zone. The local currency is called "leu" (plural lei), symbol RON. The exchange rate on June 6, 2010 was 1 euro=4.22 RON, 1 USD = 3.52 RON. Most of the ATM in Bucharest and Sinaia will accept the major credit/debit cards and will disburse lei. A few may be found that disburse euros or USD.

Contact:

- Dr. Sabin Stoica, IFIN- HH Bucharest, phone: +40 21 404 62 68, +40 21 404 23 88, fax: +40 21 457 48 55, stoica@theory.nipne.ro
- Dr. Livius Trache, Cyclotron Institute, Texas A&M Univ., phone: +1 979 845 1411, fax: +1 979 845 1899 livius_trache@tamu.edu
- Secretariat: Denise Cranganu: cssp10_fhh@yahoo.com, cssp10_secretariat@yahoo.com.

• At the Abdus Salam International Centre for Theoretical Physics:

Carpathian Summer School of Physics 2010 (CSSP10)

(smr 2180 – c/o Ms. Rosanna Sain)

Strada Costiera 11, 34014 Trieste, Italy

Telephone: +39-040-2240-231 Telefax: +39-040-2240-304 E-mail: smr2180@ictp.it

ICTP Home Page: <http://www.ictp.it>

Activity web page: <http://agenda.ictp.it/smr.php?2180>

Up-to-date information on our website: <http://cyclotron.tamu.edu/cssp10> or its Bucharest counterpart: <http://zamolxes.theory.nipne.ro/cssp10/>.

While in Romania and need help/advice call: 0740.189.698 (Sabin) or 0748.514.961 (Livius).