

ELF/VLF RADIO PHENOMENA: GENERATION, PROPAGATION and CONSEQUENCES in OBSERVATIONS, THEORY and MODELLING

**A workshop sponsored by URSI Commission H and supported by the VERSIM
IAGA/URSI joint working group.**

The workshop will be held at Sodankyla Geophysical Observatory (SGO), from 09.00 on Monday, 27th September to 11.30 on Friday, 1st October 2004.

Sources: attention will be paid to lightning, sprites, wave-particle interactions, cyclotron maser action in the magnetosphere, triggering phenomena, heating experiments and other plasma instabilities.

Propagation: ducted and unducted magnetospheric whistler-mode signals, and propagation in the Earth-ionosphere waveguide (including Trimpi effects and Schumann resonances) will be covered.

Consequences: range from wave amplification and charged particle acceleration to pitch angle diffusion, precipitation into the loss cone and the production of excess ionisation in the lower ionosphere.

Both ground-based and spaceborne results (e.g., from Cluster, Freja, Interball and Magion) will be considered.

Fundamental theoretical (analytical) studies of all these phenomena, and numerical simulation techniques to investigate them, will be central to the discussions. Papers on similar phenomena occurring elsewhere in the solar system, or in the laboratory, will not be excluded.

It is planned that an overview paper summarising the "state of the art" in the field will be published as soon as possible after the meeting.

Abstracts of around 200 words should be sent to Jyrki Manninen at SGO (e-mail address) Jyrki.Manninen@sgo.fi before **Friday, 9th April 2004**. These will be considered for oral (preferred) or poster (if necessary) presentation, by a Committee whose members include: U.S. Inan, D. Nunn, Y. Omura, C.J. Rodger, M.J. Rycroft, R. Singh, D. Shklyar, and T. Turunen.

Standard AV equipment will be available for the speakers (computer, data projector, video VHS-PAL, overhead projector, slide projector, DVD and CD players). We can offer a few computers with Internet connections for the participants, and if you have your own computer, we can provide Internet connections for up to 50 computers.

Registration:

Pre-registration by e-mail to Jyrki.Manninen@sgo.fi before **Wednesday, 31st December 2003** is essential, in order to allow the organisers to know the number of participants interested in the workshop in advance.

Every participant of the workshop is required to pay a registration fee of 150 EUR. It can be paid by credit card (VISA, MasterCard, Eurocard) or by bank transfer. Detailed information will be given in January 2004. A registration form will be available on the Internet after the pre-registration deadline.

Accommodation:

Hotel Sodankyla, the only hotel in the centre of Sodankyla, offers special prices for our workshop: a single room for 60 EUR and a double room for 70 EUR including breakfast and evening sauna. Free transportation from *Hotel Sodankyla* to SGO and back will be arranged every day. Reservations for rooms must be made via Jyrki.Manninen@sgo.fi. There will be a separate hotel reservation form with the second circular.

Two more hotels are situated at Luosto skiing centre, about 40 km south-east of Sodankyla. These are *Hotel Scandic Luosto* and *Hotel Luostotunturi* (with a spa). If you choose to stay in these hotels, you will have to make your own reservations directly with the hotel. Note, that we do not provide transportation between SGO and these hotels!

Hotel Scandic Luosto: phone +358-16-624400, fax +358-16-624410

Hotel Luostotunturi: phone +358-16-620400, fax +358-16-624388

SGO has guest rooms for about 20 participants. The Local Organising Committee (LOC) reserves them for participants who have urgent need for accommodation with modest pricing. If you need such accommodation you must request it already in your pre-registration e-mail. LOC will reserve the right to decide who will be accommodated in SGO guest rooms.

General information:*Location:*

The Workshop will be held in the main lecture room at Sodankyla Geophysical Observatory (SGO). SGO is located at 67° 22' N, 26° 38' E, which is 130 km north of Rovaniemi and 7 km south of Sodankyla, in the middle of Finnish Lapland on the beautiful banks of the river Kitinen.

About Finland:

Finland is member of European Union and the only local currency is EURO (€). The population of Finland is a bit more than 5 million.

About Sodankyla:

Sodankyla is one of the biggest centres in Lapland with a population of about 10 000 and a surface area of 12 400 km². The most important research organizations are the Sodankyla Geophysical Observatory, the Arctic Research Centre of Finnish Meteorological Institute, the EISCAT station, and the Ore Laboratory of Geological Survey of Finland.

Climate:

The time of the midnight sun lasts from 30th May to 15th July, and the polar night lasts from 19th to 25th December. The mean temperature in January is –14°C and in July +15°C. The snow cover usually lasts from 30 October to 15 May. There are about 150 nights of auroral displays per year and the

probability to see aurora around the equinoxes is very high – provided the sky is clear.

Access to Sodankyla:

The nearest airport is at Rovaniemi (about 130 km south of Sodankyla). There are 5 flights from Helsinki to Rovaniemi and back every day. There might be some additional flights depending on the season. More detailed information will be available in spring and summer 2004. At the moment there are two airlines flying to Rovaniemi: Finnair and Flying Finn.

Some flights are linked to bus connections to Sodankyla. All major car rental firms are available at the airport.

It is also possible to come by train from Helsinki to Rovaniemi. There are 2 night trains and 2 day trains every day.

Welcome to Sodankyla!

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