

Name of research institute or organization:

Physikalisches Institut, Universität Bern

Title of project:

SONTEL - Solar Neutron Telescope for the identification and the study of high-energy neutrons produced in energetic eruptions at the Sun

Project leader and team:

Dr. Rolf Bütikofer

Project description:

The solar neutron telescope (SONTEL) at Gornergrat, Switzerland, has been in continuous operation since 1998 as the European cornerstone of a worldwide network for the study of high-energy neutrons produced in energetic processes at the Sun. The network consists of seven solar neutron telescopes that are located at high altitudes and at low to mid latitudes (short path through atmosphere) as well as at different longitudes.

SONTEL Gornergrat was in operation until 11 May 2017. The radioactivity measurement with a GammaTracer device inside the detector housing of SONTEL was continued and was moved into the Gornergrat North Observatory on 11 May 2017.

On 11 May 2017 we started the dismantling of the SONTEL detector. The scintillator blocks were transported from Gornergrat to Bern where they will be used in new experiments by the Laboratory for High Energy Physics (LHEP) at the University of Bern. LHEP took also a lot of electronic material of SONTEL. The proportional counters were disposed appropriately. The detector housing was taken over by the hydroelectric power company Grande Dixence S.A. and was transported by Heliswiss International S.A. with the heavy lift helicopter Kamov to the arch dam in the Zmutt valley near Zermatt, see picture of the month of June 2017 of the HFSJG webpage under <https://www.hfsjg.ch/en/media/picture-of-the-month/pictures-month-2017/>. The preparation of the detector housing for the flight and the transport of the material (scintillator blocks, proportional counters, electronic components) down to the valley were performed by the waste management company Schwendimann S.A., Zermatt. The concrete foundation for the detector housing on the Belvedere terrace was removed by the construction company Imboden S.A., Zermatt.



Figure 1. With the pallet transporter of the Kulmhotel Gornergrat, José Lourenço (waste management company Schwendimann S.A., Zermatt) prepares the material for the transport to the valley.

Key words:

Astrophysics, cosmic rays, solar neutrons

Internet data bases:

<http://www.stelab.nagoya-u.ac.jp/ste-www1/div3/CR/Neutron/index.html>

Collaborating partners/networks:

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