



43 years of Oulu Cosmic Ray station

Ilya Usoskin

Sodankylä Geophysical Observatory (Oulu unit), University of Oulu, Finland;

Some facts

- Type: 9-NM64
- location: 65.05°N, 25.47°E, 15 m a.s.l., Pc~0.8 GV
- Continuous operation since Apr. 1964
- Web-site: <http://cosmicrays.oulu.fi>
- Data: 1-hour – since 1964;
 5-min – since 1968
 1-min – since 1996
 10-sec – since 1990

History: 1964

1964 – a permanent cosmic ray station (NM + muon detector) installed in Oulu.

Contributors: Sauli Niemi, Pekka Tanskanen, Jorma Kangas

Key persons: Pekka Tanskanen (founder), Hannu Kananen (Head, 1965-1999) Ilya Usoskin (Head, since 2000)



History: muon detectors

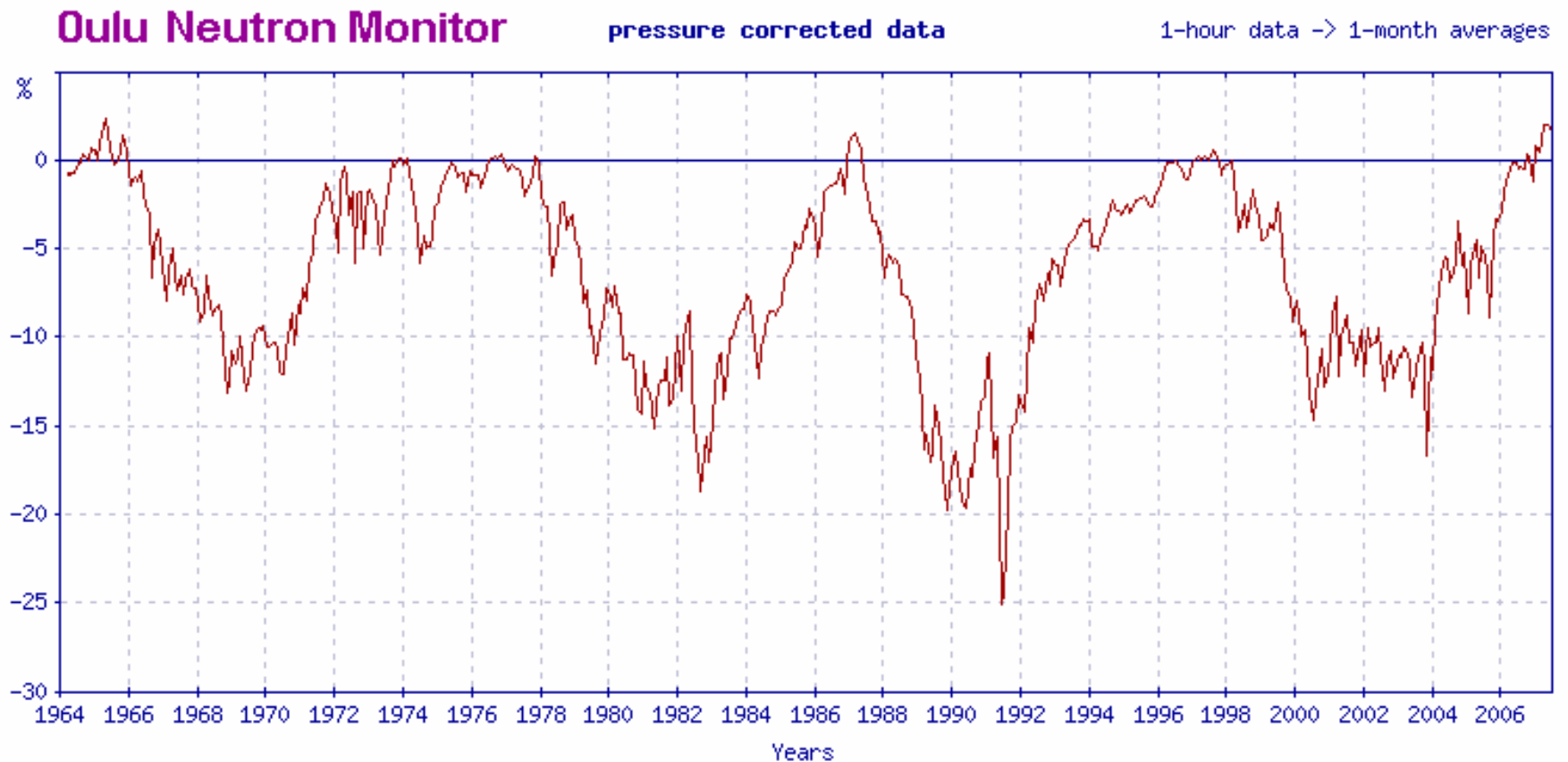
2000 – multi-layer Muon UnderGround detector
launched in a mine in Pyhäsalmi.



2008 – EMMA to be launched in Pyhäsalmi.

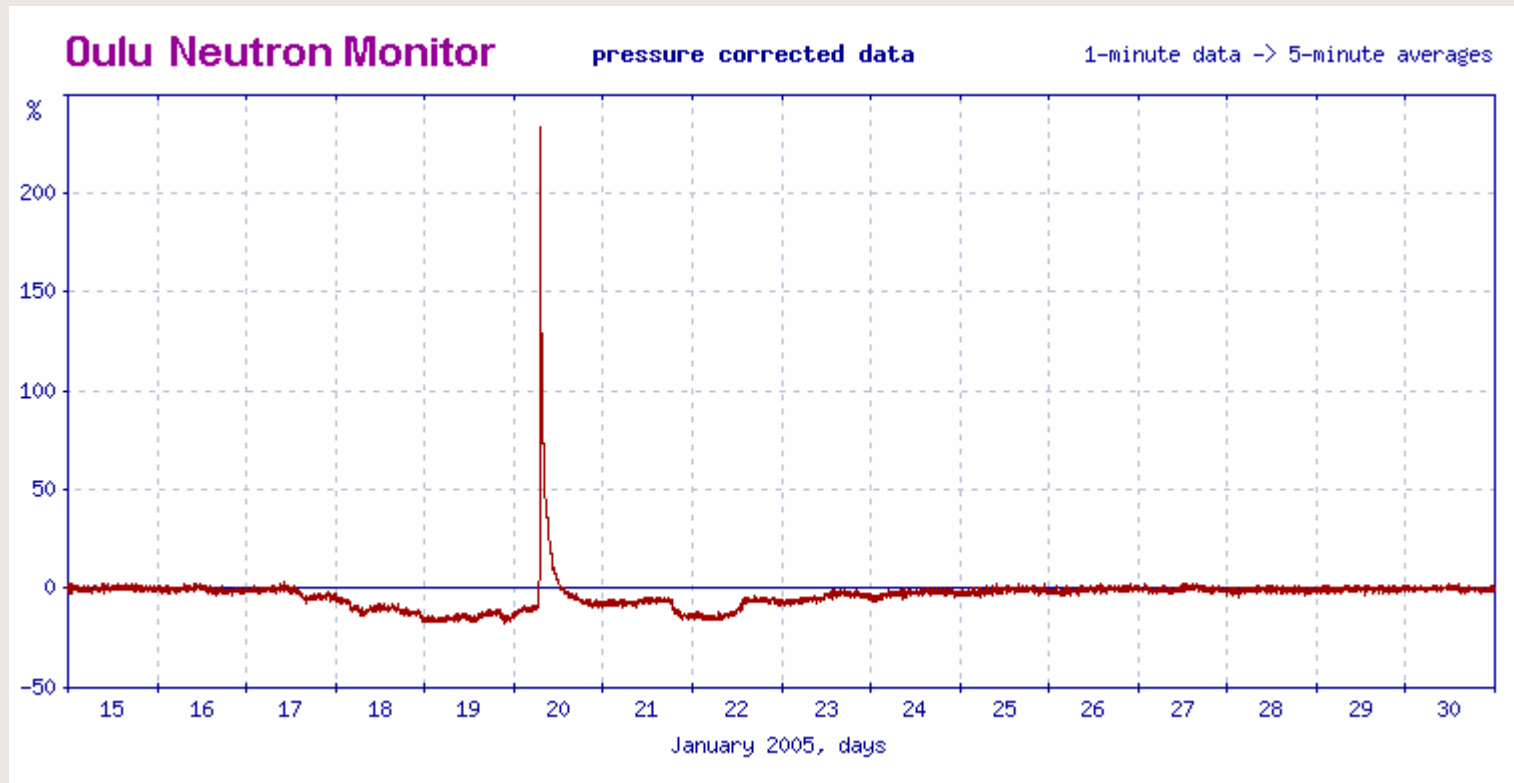


CR record of Oulu NM

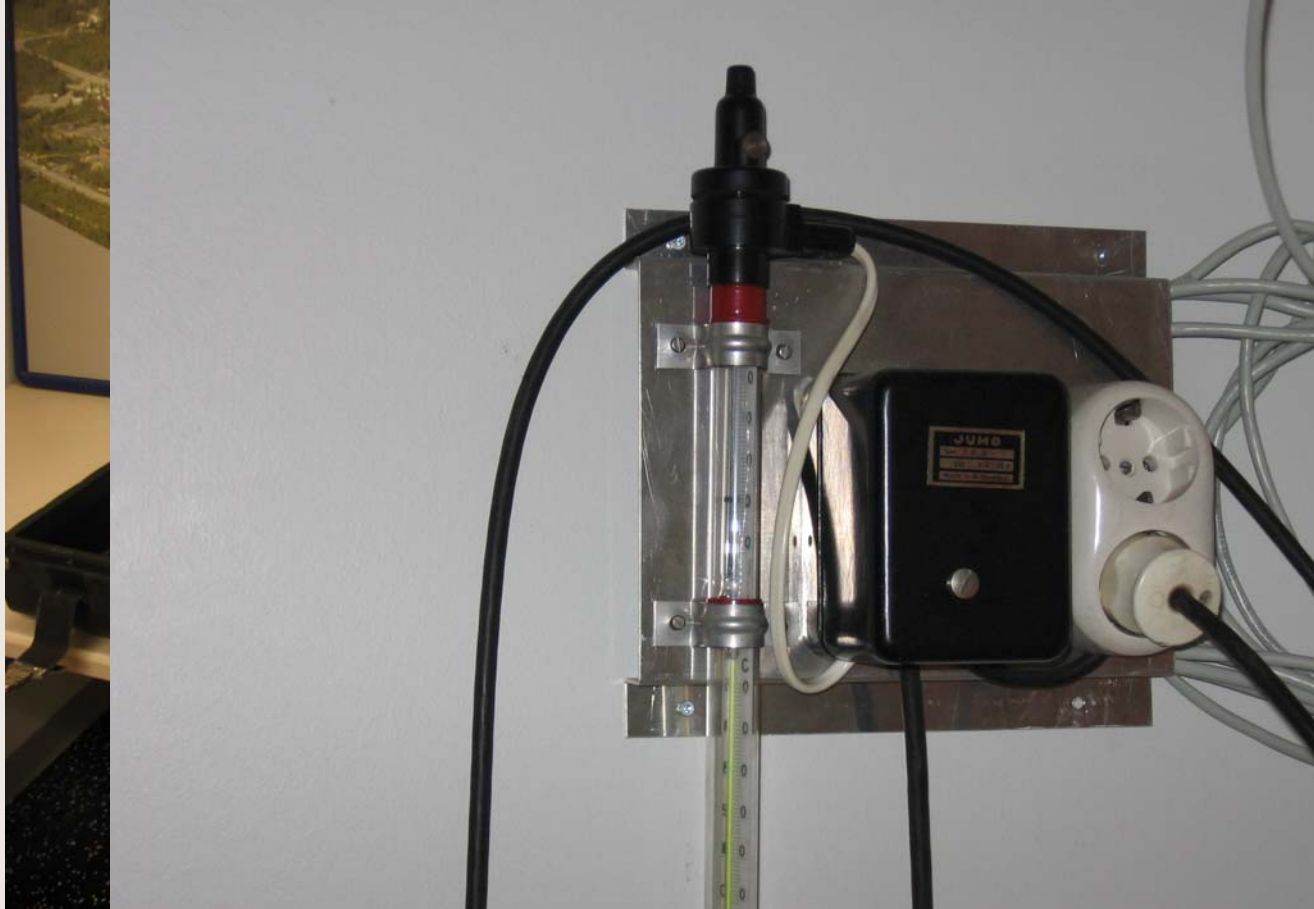


100+ papers published using Oulu NM data

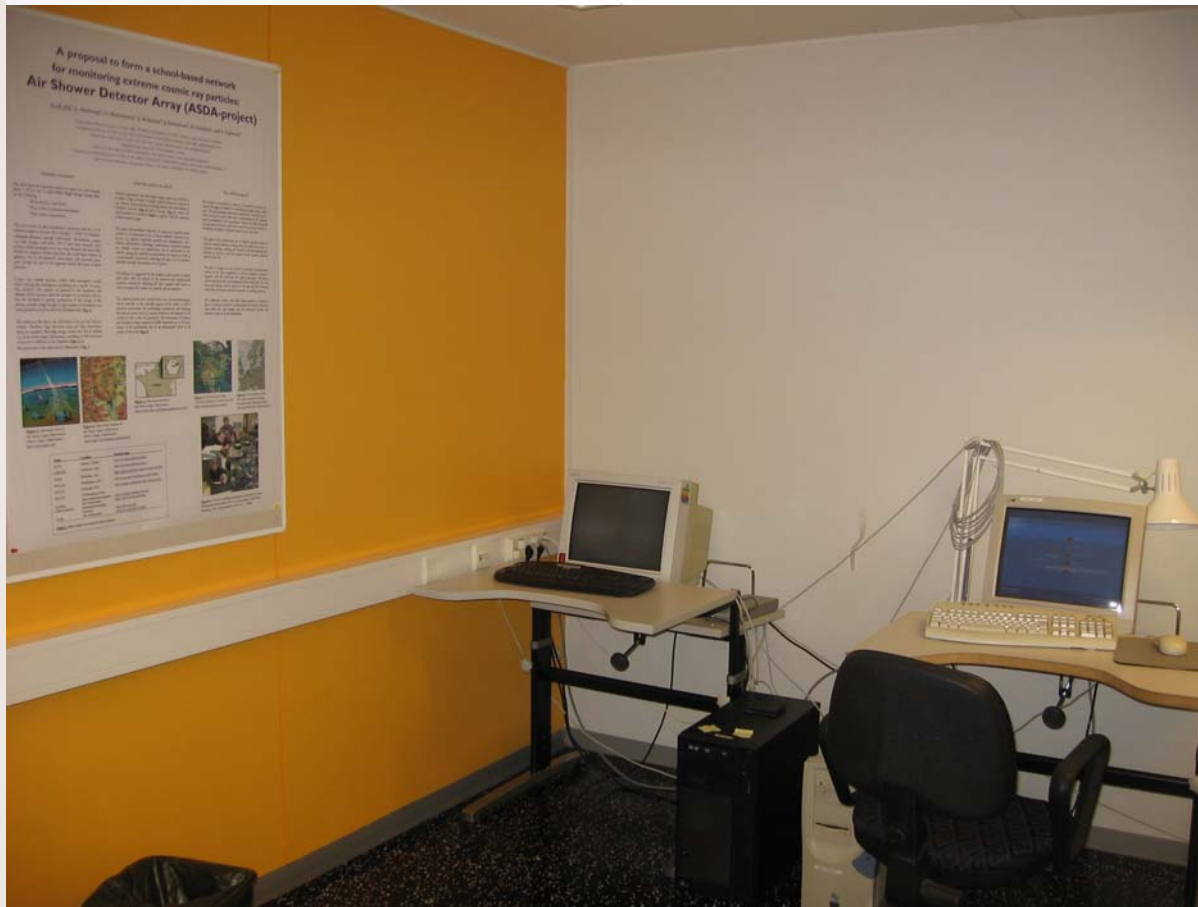
GLE 20/01/2005



Some old photos



Some new photos



Acknowledgements

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THANK YOU !