**Natural Hazards
and Earth
System Sciences**

Reply to Masci's comment on "Ultra Low Frequency (ULF) European multi station magnetic field analysis before and during the 2009 earthquake at L'Aquila regarding regional geotechnical information" by Prattes et al. (2011)

G. Prattes[1], **K. Schwingenschuh**[1], **H. U. Eichelberger**[1], **W. Magnes**[1], **M. Boudjada**[1], **M. Stachel**[1], **M. Vellante**[2,3],
U. Villante[2,3], **V. Wesztergom**[4], **and P. Nenovski**[5]

[1]Institut für Weltraumforschung, Österreichische Akademie der Wissenschaften (IWF/ÖAW), Graz, Austria
[2]Dipartimento di Fisica, Università dell'Aquila, L'Aquila, Italy
[3]Istituto Nazionale di Geofisica e Vulcanologia, Rome, Italy
[4]Geodetic and Geophysical Research Institute of the Hungarian Academy of Sciences, Sopron, Hungary
[5]Geophysical Institute, Sofia, Bulgaria

Correspondence to: G. Prattes (gustav.prattes@oeaw.ac.at)

The authors Prattes et al. (2011) acknowledge for the comments, the interest in the seismo-electromagnetic subject and the entitled paper "Ultra Low Frequency (ULF) European multi station magnetic field analysis before and during the 2009 earthquake at L'Aquila regarding regional geotechnical information".

In general, the authors always try to contact a multi-instrumental approach (including satellites, e.g. DEMETER mission) and multi-frequency investigations in order to get a broader picture of a seismic event, see references in Prattes et al. (2011). A current compilation of possible earthquake precursors is given in Cicerone et al. (2009).

Prattes et al. (2011) performed a (i) multi station normalized polarization study of SEGMA data for a time period of more than 15 months from 1 January 2008 to 15 April 2009 and (ii) compared the 5 day running mean polarization result to the five day running mean of $\sum K_p$ index to discriminate local magnetic from global variations, see Prattes et al. (2011), Fig. 4. For the whole study the geomagnetic quiet nighttime period was used, the applied standardized polarization method delivers robust results.

Figure 1 in Masci et al. (2012) contains digitized values of the standardized polarization and reproduces positive correlation to the $\sum K_p$ trace. This correlation result found by Masci et al. (2012) is not approved in Prattes et al. (2011). The figure below shows Fig. 4 from Prattes et al. (2011) and in the zoomed plot the 5 day running mean of $\sum K_p$ and

the polarization station comparison from 1 January 2009 to 15 April 2009. In this plot no obvious positive correlation between $\sum K_p$ and the polarization can be found in the shaded area.

In conclusion, we emphasize once more that during the 15 month investigation period the polarization level did not exceed the 2 sigma level, except ∼2 weeks before L'Aquila EQn.

References

Cicerone, R. D., Ebel, J. E., and Britton, J.: A systematic compilation of earthquake precursors, Tectonophysics, 476, 371–396, 2009.

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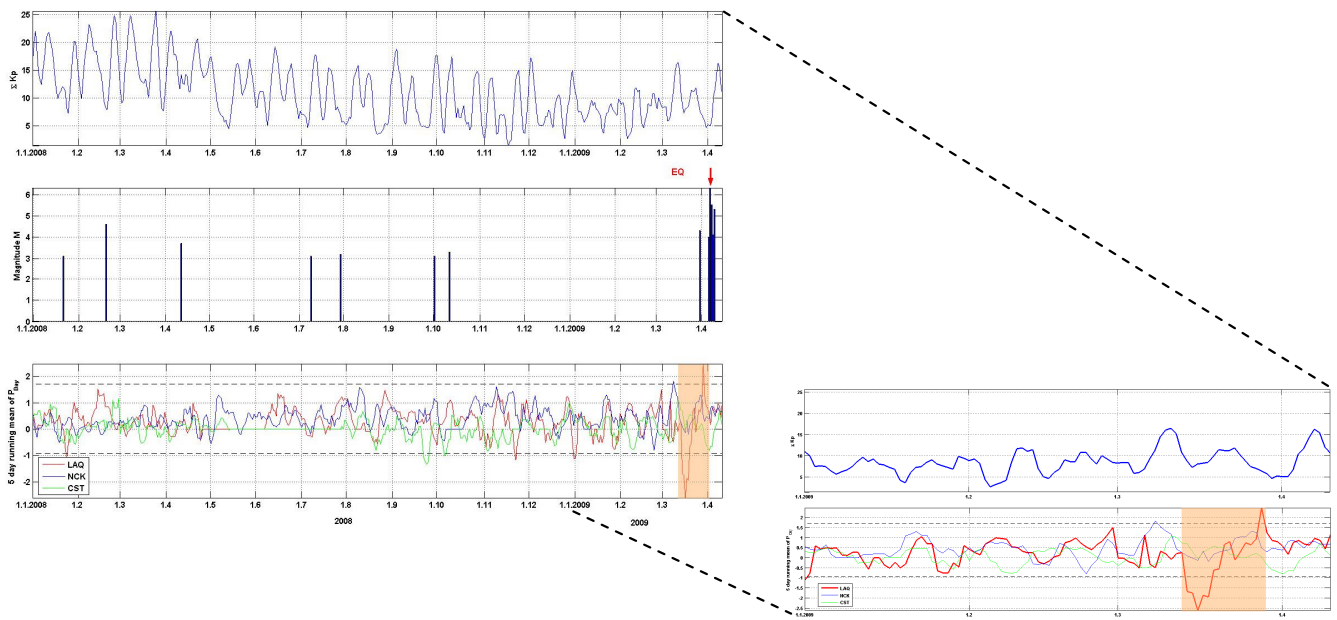
Fig. 1. Long term and zoomed for the LAQ EQ series polarization station comparison.