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How to measure Hopkinson peak in earth materials?

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About some mid-crustal high-conductivity anomalies obtained by the magnetotelluric method we assumed (Kiss et al. 2005, GRL) that they might be due to very high magnetic susceptibility values (due to the so-called Hopkinson-peak) just at the Curie (Néel) depth. From our two-dimensional numerical modelling calculations (Szarka et al 2007, 4th 3DEM, Freiberg) it has become clear that at least a few hundred times higher susceptibility values than the ferro(i)magnetic value are needed in order to get observable field anomalies. Since the Earth's crust has an ideal temperature distribution, such an assumption cannot be excluded. At the same time, such high susceptibility values have never been found in rock physics experiments. If the Hopkinson-peak may be really significant for some natural materials, the question arises, how the Hopkinson peak can be measured exactly? We think, the standard heating rate (about 100-200 mK/s, appr. 6-12K/min) and the sampling time interval in rock physics experiments is presently too high to get a realistic Hopkinson peak, since the sampling in the temperature scale (about 12 K) is not satisfactory. We think, a) very low heating rate (about 5 mK/s that is 3 K/min, and b) sampling time interval less than 1-3 min would be required. The temperature distribution around and within the sample during the heating (or cooling) is a key problem, which is discussed in details in the poster. The questions remain: (1) whether it is possible to overcome these technical difficulties, and (2) could satisfactory Hopkinson-peak measurements be carried out on earth materials in the near future? Acknowledgements: Hungarian National Research Fund (OTKA T68475).