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**Bulk analysis of extraterrestrial samples  
using INAA at the research reactor FRM II**

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Within the framework of a TUM-Kolleg project between the TU München and the Otto-von-Taube-Gymnasium Gauting three ordinary chondrites from Germany (Cloppenburg [1], Oldenburg (Bissel), Benthullen), three HEDs from Oman and North-West-Africa (Dhofar 1675, NWA 2690, NWA 2698), one lunar and one martian meteorite (NWA 7986, NWA 4925) were analyzed by instrumental neutron activation analysis (INAA). In Germany the FRM II is currently the most intensive neutron source offering different irradiation facilities and high and pure thermal neutron flux for INAA. In total, 45 elements including many REEs could be determined. A clear difference between chondrites and achondrites could be observed according to the element compositions. The high Ba-concentration in all samples is probably a result of weathering [2]. The martian meteorite has a high concentration of Fe (17.2%) compared to other achondrites. The moon sample has higher concentrations of REEs, but is apparently not a rock with a KREEP-signature.

[1] Storz, J. et al., this meeting. [2] Stelzner, T. et al., (1999) MAPS 34, 787-794.

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