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von

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**Geochronometer ^{146}Sm : progress report
on detection, half-life and production**

The ^{146}Sm nuclide is believed to be synthesized by the so-called p-process in extremely hot environments such as occurring during a core-collapse supernova. With an alpha-decay half-life of 103 ± 5 Myr, it has long been proposed as a cosmochronometer possibly measuring the time between a last p-process event and the Solar System formation. Although presently extinct, ^{146}Sm was indeed shown to have been alive in the Early Solar System. In recent years, observations of isotopic anomalies of its ^{142}Nd daughter in terrestrial rocks provide a time scale for planet Earth early differentiation. Our ^{146}Sm experimental program consists in developing a sensitive detection method of ^{146}Sm by accelerator mass spectrometry, a new determination of its half-life and the study of its production modes in the p-process. Preliminary results will be discussed.

Tuesday, 12. Januar 2010, 14:00 Uhr s.t.

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1. Stock, Victor-Franz-Hess-Hörsaal**