

Service de Physique Nucléaire
SÉMINAIRE

Vendredi 09/06/2017, 11h00-12h00

CEA Saclay, Orme des Merisiers Bat 703, p 135 salle visio-conférence

**Model calculations for Planetology and Space Sciences.
From the constancy of galactic cosmic rays to water on the
Moon.**

Ingo Leya

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In this seminar talk I will present some scientific questions we are currently trying to answer with the help of new and improved model calculations for cosmogenic nuclide production rates. The so-far used Monte Carlo calculations used for modeling cosmogenic production rates are slightly out of date and needs to be improved. Currently, the model is not consistent for spallation and capture reactions and some important reactions with complex projectiles are entirely missing. To improve on this we are currently improving the Monte Carlo code and plan to apply the new code to various planetary bodies. First, we study the constancy of the galactic cosmic rays over the last few billion years using cosmogenic nuclide concentrations in iron meteorites. Second, we plan to study the water content of planetary bodies, starting with the Moon, from the measurement of neutron capture effects in various elements. Third, we will make benefit of the new ability of the code to handle high energetic particle by applying the model to irradiation effects in planetary exospheres.

Le cafe sera servi 10 minutes avant

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