Joint annual meeting of Swiss and Austrian Physical Societies 2017



Contribution ID: 138 Type: Talk

[525] Search for a violation of the Pauli Exclusion Principle with electrons in an underground laboratory

Friday 25 August 2017 12:30 (15 minutes)

The Pauli Exclusion Principle (PEP) is the foundation for our understanding of physics where systems of fermions are concerned. Therefore, it is important to make precision tests of the PEP. In a pioneering experiment, Ramberg and Snow supplied an electric current to a Cu target, and searched for PEP violating atomic transitions of the "fresh" electrons from the current. The non-existence of the anomalous X-rays from such transitions then set the upper limit for a PEP violation. The VIP2 (VIolation of Pauli Exclusion Principle) experiment improves this method. The experiment and the preliminary results from the first data taking period in the underground laboratory of Gran Sasso will be presented.

Author: PICHLER, Andreas

Co-author: Dr MARTON, Johann

Presenter: PICHLER, Andreas

Session Classification: Atomic Physics and Quantum Optics

Track Classification: Atomic Physics and Quantum Optics