

Abstract Submitted
for the APR14 Meeting of
The American Physical Society

New precision tests of the Pauli Exclusion Principle for Electrons in the underground laboratory at Gran Sasso¹ JOHANN MARTON, Stefan Meyer Institute, VIP2 COLLABORATION — One of the fundamental rules of quantum physics is represented by the Pauli Exclusion Principle (PEP). It is evident that this principle is extremely well fulfilled due to many observations. In the past many experiments were performed to search for tiny violations of PEP. The experiment VIP at the Gran Sasso underground laboratory (LNGS) is searching for possible small violations of the PEP for electrons leading to forbidden x-ray transitions in copper atoms. The experimental method, results obtained so far and new developments of a succeeding improved experiment VIP2 at Gran Sasso to further increase the sensitivity by 2 orders of magnitude will be presented.

¹Partly supported by FWF project P25529.

Johann Marton
Stefan Meyer Institute

Date submitted: 30 Dec 2013

Electronic form version 1.4