

VIP Experiment: new experimental limit on Pauli Exclusion Principle violation by electrons

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The VIP (Violation of the Pauli Exclusion Principle) experiment is investigating one of the basic principles of modern physics, searching for anomalous X-rays emitted by copper atoms in a conductor: any detection of these anomalous X-rays would mark a Pauli-forbidden transition. VIP is currently taking data at the Gran Sasso underground laboratories, and its scientific goal is to improve by three-four orders of magnitude the previous limit on the probability of Pauli violating transitions, bringing it into the $10^{-29\div-30}$ region. The new experimental results, together with future plans, are presented.

[1] E. Ramberg and G. A. Snow 1990 *Phys. Lett. B* **238** 438

[2] S. Bartalucci et al.(VIP Collaboration) 2006 *Phys. Lett. B* **641** 18

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