



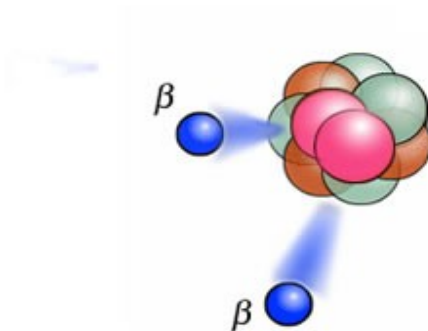
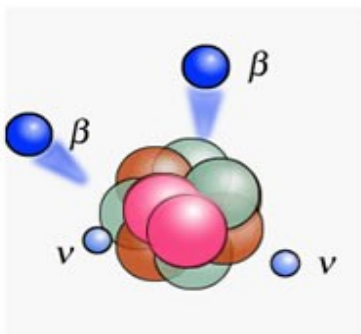
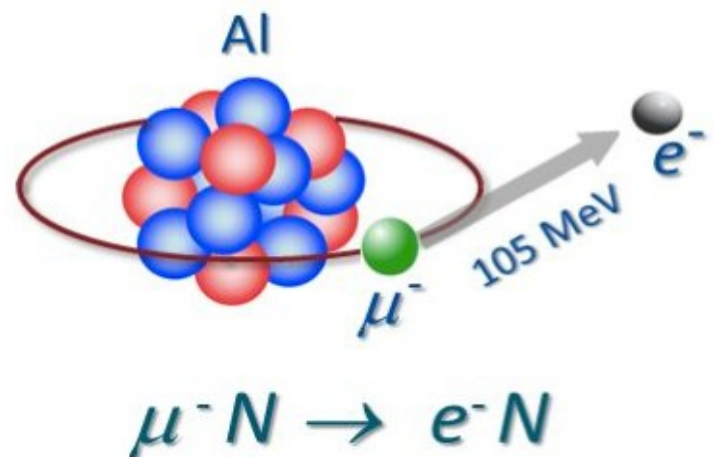
New experimental attempts to tackle lepton number and flavor violation.

Tuesday, 23 January 2018

DESY Auditorium

16:45 h

Kai Zuber (TU Dresden)



Neutrino physics is in a new era. With the discovery of a neutrino rest mass in oscillation experiments, new opportunities arose in nuclear and particle physics to determine the absolute neutrino mass and the fundamental character of the neutrino. One way forward is the search for neutrino-less double beta decay. Its observation would prove total lepton number violation and shows that neutrinos are their own antiparticles and the measured half-life is directly linked to the neutrino mass. The talk will give a general introduction into double beta decay and the related physics, discuss the status of the current experiments, especially the experiments GERDA and LEGEND, based on Ge-76. In addition, the mixing of neutrinos and the well-known quark mixing raises the question whether charged leptons mix, too. New experiments on muon-electron conversion offer a factor of 10000 improvement with respect to current results. The status and potential of the muon-electron conversion experiment COMET is presented.

- **Coffee, tea and cookies will be served at 16:30h**
- **After the colloquium there is a chance for private discussions with the speaker over wine and pretzels**