COLLOQUE DE PHYSIQUE EPFL

EPFL PHYSICS COLLOQUIUM

Monday, June 6, 2016, 16:15

Room CE3

Prof. Alexei Smirnov

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Oscillations, no-oscillations and neutrino mass

Prof. Smirnov was awarded Einstein Medal 2016 for his studies influencing the Nobel Prize-winning neutrino-detection experiments

The Nobel Prize in physics 2015 has been awarded "...for the discovery of neutrino oscillations". In this connection, I will describe the SuperKamiokande (SK) and SNO experiments. While SK has discovered vacuum oscillations of the atmospheric neutrinos, SNO observed effect of the adiabatic (almost non-oscillatory) flavor conversion of neutrinos in the Sun. In general, oscillations imply mixing but not masses. Further studies required to show that the neutrino masses are behind the SK and SNO results. I will discuss the present and future studies of the solar and atmospheric neutrinos which have fundamental importance.

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