Contribution ID: **1** Type: **not specified**

New anomalies in the solar neutrino sector ?

Wednesday 1 June 2011 14:00 (15 minutes)

The solar neutrino sector shows two weak hints of anomalous behavior. First, the value of the mixing angle theta_12 inferred by the solar data is slightly different from that obtained by KamLAND. Second, as evidenced by the recent low-threshold measurements performed by Borexino, Super-Kamiokande and the Sudbury Neutrino Observatory, the solar 8B neutrino spectrum shows no sign of the low-energy upturn predicted by the standard MSW mechanism. These findings suggest the possibility that new subdominant dynamical effects may be at play in the matter-enhanced conversion of solar neutrinos. In fact, we show that both anomalies can be explained by new flavor-changing neutrino interactions with strength 0.1 G_F, whose presence is now favored at a non negligible statistical level.

Author: Dr PALAZZO, Antonio (TUM)

Presenter: Dr PALAZZO, Antonio (TUM)

Session Classification: P8 - LEPTONS (MOSTLY NEUTRINOS)