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Lepton flavour violating processes in an S(3)-invariant extension of the Standard Model

Thursday 11 December 2008 15:30 (20 minutes)

A variety of lepton flavour violating effects related to neutrino oscillations and mixings will be systematically discussed in the framework of a minimal S3-invariant extension of the Standard Model. We will give explicit analytical expressions for the matrices of the Yukawa couplings, the results of a computation of the branching ratios of some selected flavour-changing neutral current (FCNC) processes and the contribution of the exchange of neutral flavour-changing scalars to the anomaly of the muon's magnetic moment, in terms of the masses of the charged leptons and the neutral Higgs bosons. It will also be shown that the S3×Z2 flavour symmetry and the strong mass hierarchy of the charged leptons strongly suppress the FCNC processes in the leptonic sector and give a nearly tri-bimaximal neutrino mixing matrix. The contribution of the FCNCs to the anomaly of the muon's magnetic moment is small but non-negligible.

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