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A model for neutrino masses and mixing based on the non-abelian discrete symmetry A4

Monday, 6 December 2010 17:00 (25 minutes)

In this talk I will present a see-saw A4 model for Tri-Bimaximal mixing which is based on a very economical flavour symmetry and field content and still possesses all the good features of A4 models. In particular the charged lepton mass hierarchies are determined by the A4 x Z4 flavour symmetry itself without invoking a Froggatt-Nielsen U(1) symmetry. Tri-Bimaximal mixing is exact in leading order while all the mixing angles receive corrections of the same order in next-to-the-leading approximation. As a consequence the predicted value of the angle theta_13 is within the sensitivity of the experiments which will take data in the near future. The light neutrino spectrum with its phenomenological implications, also including leptoproduction, will be also discussed.

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