Contribution ID: **30** Type: **not specified**

Seesaw in the bulk

Tuesday 31 May 2011 15:15 (15 minutes)

A five-dimensional seesaw framework is analyzed with the lepton-number-violating propagator of bulk right-handed neutrinos. That can bypass summing up the effects of heavy Majorana particles whose masses and wavefunctions are not exactly known. The propagator method makes it easier to evaluate the seesaw-induced neutrino mass for various boundary conditions of bulk neutrinos and in a general background geometry, including the warped extra dimension. It is also found that the higher-dimensional seesaw gives a natural framework for the inverse seesaw suppression of low-energy neutrino masses.
With the introduction of the discrete flavor symmetries, the boundary conditions
of the bulk neutrinos trigger feasible symmetry breaking to account for the
observed pattern of the neutrino masses and mixing.

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Session Classification: P2 - EXTRA DIMENSIONS