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Constraints on the parameters of the neutrino extension of the Standard Model

Wednesday, 17 January 2024 16:00 (20 minutes)

This work examines limitations on the neutrino extension parameters of the Standard Model of elementary particle physics. A simple relationship between the observed quantities, elements of the matrices S and R was obtained, which is valid for non-zero masses of active neutrinos and for different values of masses of heavy sterile neutrinos. Experimental constraints on the elements of the S and R matrices were improved, and constraints on U_{tot}^2 depending on the mass of a heavy neutrino with right chirality were obtained. The expression for the baryon asymmetry of the early Universe also was analyzed.

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