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keV dark matter in the Minimal left-right symmetric model with TeV scale gauge bosons

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The possibility of the lightest sterile neutrino with a mass of about a few keV as warm dark matter (DM) in the framework of the Minimal left-right symmetric model (MLRM) based on the $SU(3)_C SU(2)_L SU(2)_R \times U(1)$ gauge group is considered. Only few parameters of the model are free which makes it rather predictable and unambiguous. We thoroughly consider a parametrization in the lepton sector and obtain a general form for mixing matrices and mixing parameters. Cosmological and astrophysical constraints on DM neutrino are analyzed. In the case of the mass of W_R of about 5 TeV, the model phenomenology consistent with current experimental data is considered.

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