

FIG. 1. Constraints on $|U_{eN}|^2$ as a function of the HNL mass m_N . Limits shown: ATLAS (2019) [1], ATLAS (2022) [2], BEBC(Barouki et al) [3], Belle [4], Borexino [5], CHARM [6], CMS (2018) [7], CMS (2022) [8], Cosmology [9], DELPHI (long) [10], DELPHI (short) [10], KENU (Bryman et al) [11], L3 (2001) [12], LSND (Ema et al) [13], NA62 [14], PIENU (2017) [15], PIENU (Bryman et al) [11], PMNS Unitarity [16], T2K [17], TRIUMF [18].

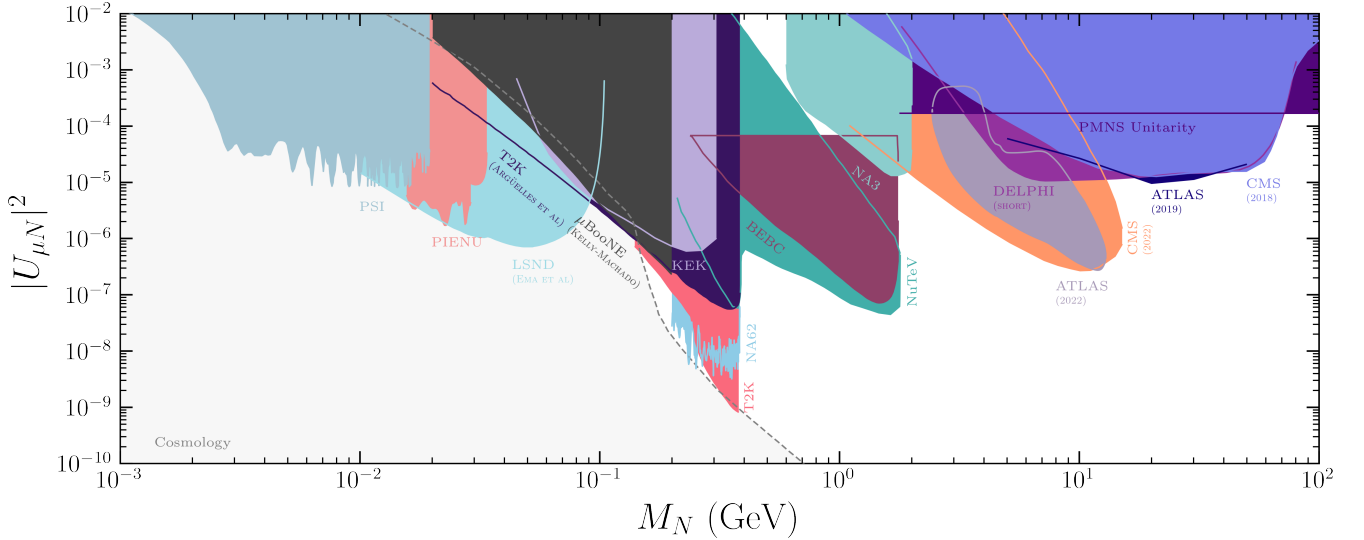


FIG. 2. Constraints on $|U_{\mu N}|^2$ as a function of the HNL mass m_N . Limits shown: μ BooNE (Kelly-Machado) [19], ATLAS (2019) [1], ATLAS (2022) [2], BEBC [20], BNL-E499 [21], CMS (2018) [7], CMS (2018-dilepton) [22], CMS (2022) [8], CMS (8TeV) [23], Cosmology [9], DELPHI (short) [10], KEK [11], LSND (Ema et al) [13], NA3 [24], NA62 [25], NuTeV [26], PIENU [27], PIENU (low μ energy) [27], PMNS Unitarity [16], PSI [28], T2K [17], T2K (Argüelles et al) [29].

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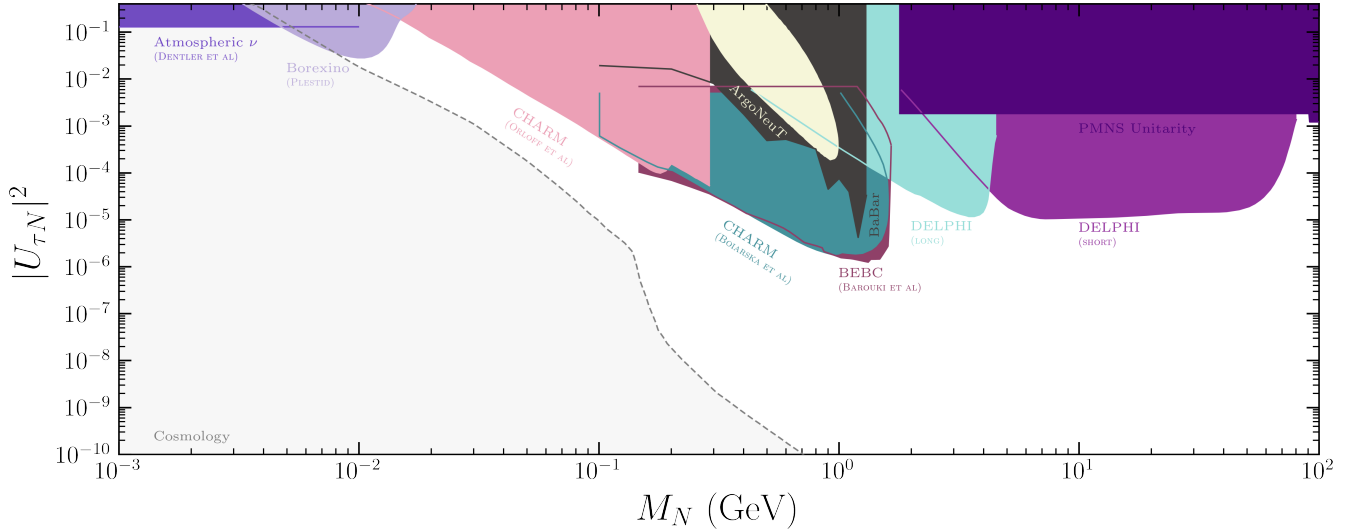


FIG. 3. Constraints on $|U_{\tau N}|^2$ as a function of the HNL mass m_N . Limits shown: ArgoNeuT [30], Atmospheric ν (Dentler et al) [31], BEBC(Barouki et al) [3], BaBar [32], Borexino (Plestid) [33], CHARM (Boiarska et al) [34], CHARM (Orloff et al) [35], Cosmology [9], DELPHI (long) [10], DELPHI (short) [10], PMNS Unitarity [16].

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