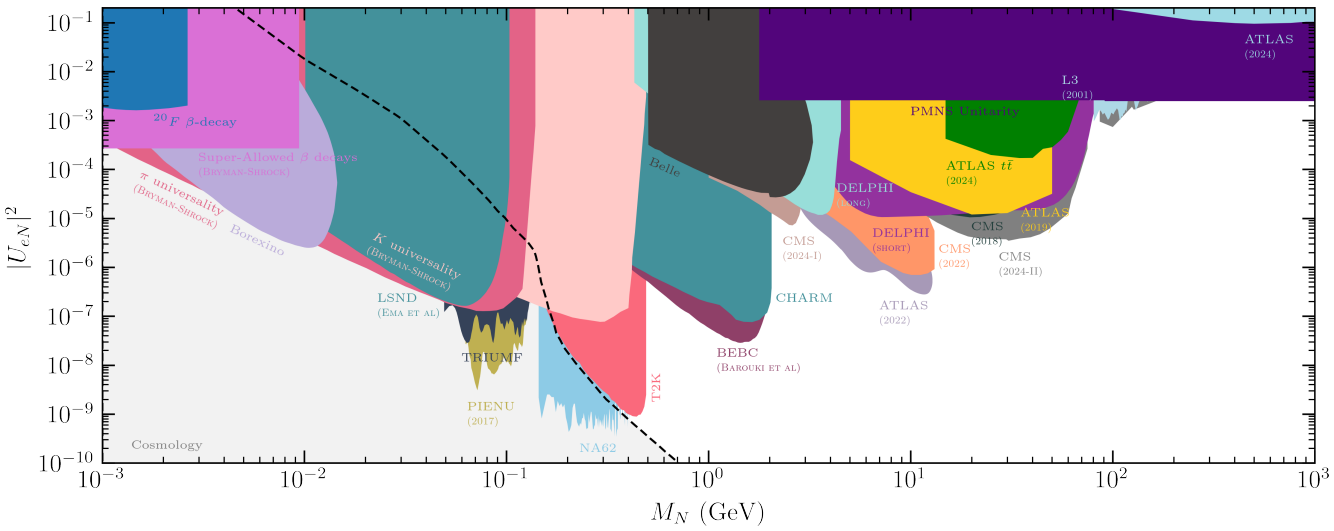

FIG. 1. Constraints on $|U_{eN}|^2$ as a function of the HNL mass m_N. Limits shown: K universality (Bryman-Shrock) [1], π universality (Bryman-Shrock) [1], ^{20}F β-decay [2], ATLAS $t\bar{t}$(2024) [3], ATLAS (2019) [4], ATLAS (2022) [5], ATLAS (2024) [6], BEBC(Barouki et al) [7], Belle [8], Borexino [9], CHARM [10], CMS (2018) [11], CMS (2022) [12], CMS (2024-I) [13], CMS (2024-II) [14], Cosmology [15], DELPHI (long) [16], DELPHI (short) [16], L3 (2001) [17], LSND (Ema et al) [18], NA62 [19], PIENU (2017) [20], PMNS Unitarity [21], Super-Allowed β decays (Bryman-Shrock) [1], T2K [22], TRIUMF [23].

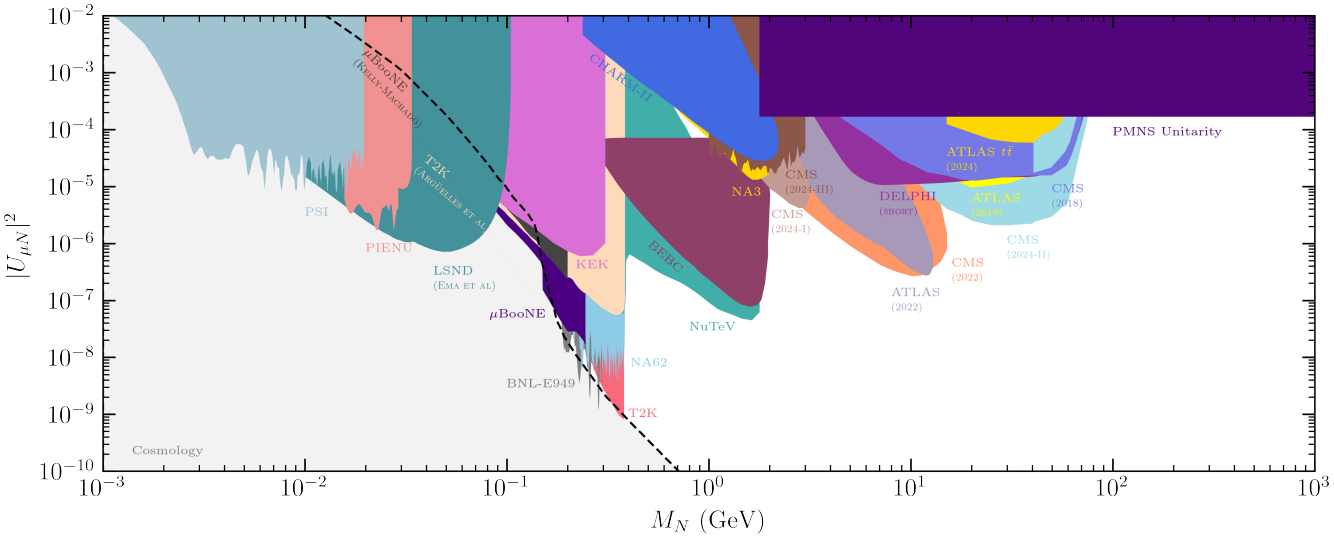

FIG. 2. Constraints on $|U_{\mu N}|^2$ as a function of the HNL mass m_N. Limits shown: μBooNE [**?**], μBooNE (Kelly-Machado) [24], ATLAS $t\bar{t}$(2024) [3], ATLAS (2019) [4], ATLAS (2022) [5], BEBC [25], BNL-E949 [26], CHARM-II [27], CMS (2018) [11], CMS (2018-dilepton) [28], CMS (2022) [12], CMS (2024-I) [13], CMS (2024-II) [14], CMS (2024-III) [29], CMS (8TeV) [30], Cosmology [15], DELPHI (short) [16], KEK [1], LSND (Ema et al) [18], NA3 [31], NA62 [32], NuTeV [33], PIENU [34], PIENU(low μ energy) [34], PMNS Unitarity [21], PSI [35], T2K [22], T2K (Argüelles et al) [36].

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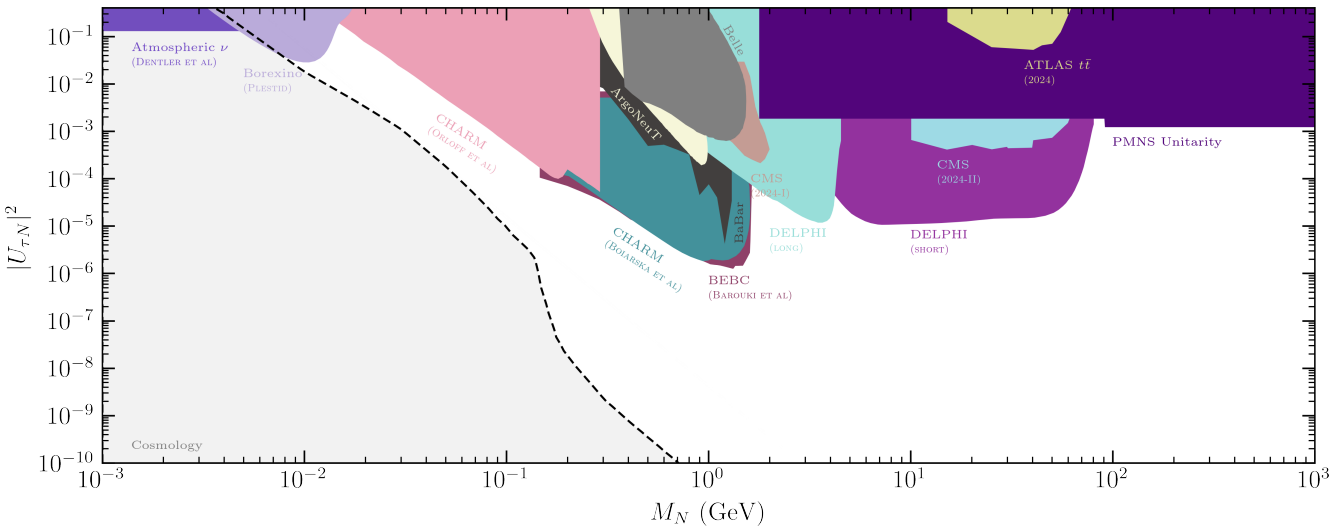

FIG. 3. Constraints on $|U_{\tau N}|^2$ as a function of the HNL mass m_N. Limits shown: ATLAS $t\bar{t}$(2024) [3], ArgoNeuT [37], Atmospheric ν (Dentler et al) [38], BEBC(Barouki et al) [7], BaBar [39], Belle [40], Borexino (Plestid) [41], CHARM (Boiarska et al) [42], CHARM (Orloff et al) [43], CMS (2024-I) [13], CMS (2024-II) [14], Cosmology [15], DELPHI (long) [16], DELPHI (short) [16], PMNS Unitarity [21].

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