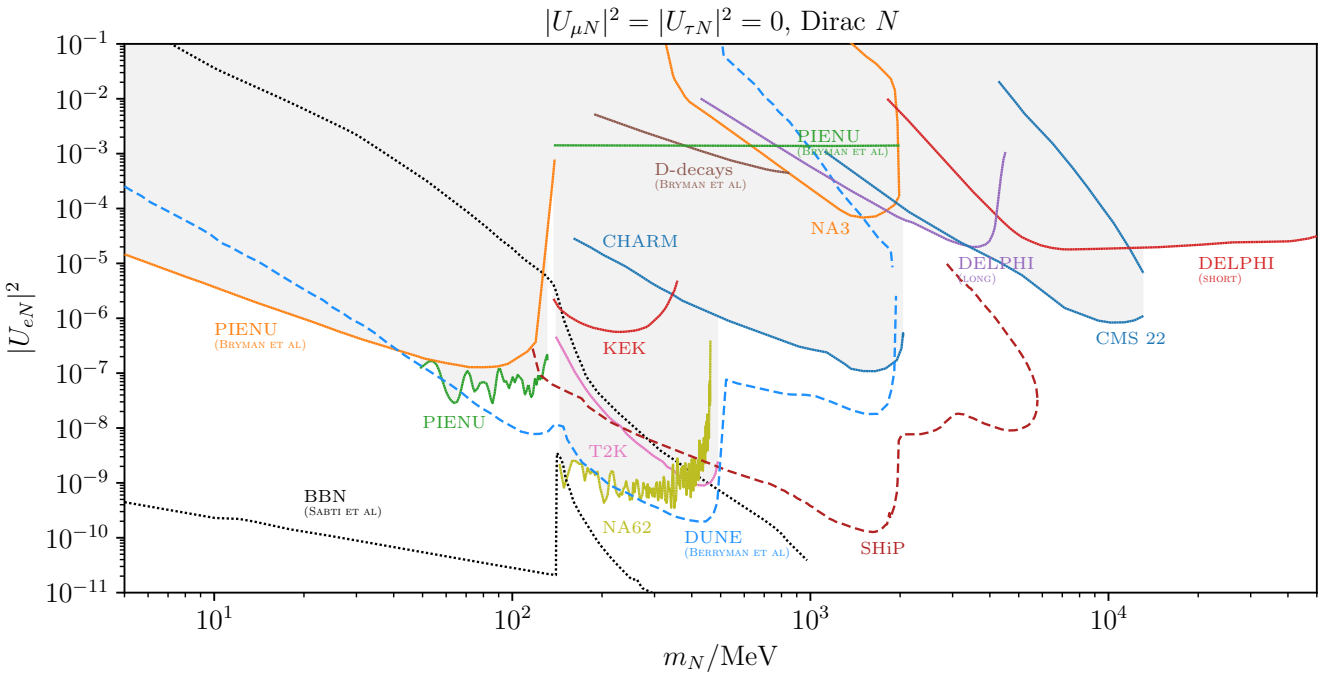

FIG. 1. Constraints on $|U_{eN}|^2$ as a function of the HNL mass m_N. Limits shown: ATLAS [1], BBN (Sabti et al) [2], CHARM [3], CMS 22 [4], D-decays (Bryman et al) [5], DELPHI (long) [6], DELPHI (short) [6], DUNE (Berryman et al) [7], KEK [8], NA3 [9], NA62 [10], PIENU [11], PIENU (Bryman et al) [5], PIENU (Bryman et al) [5], SHiP [12], T2K [13].

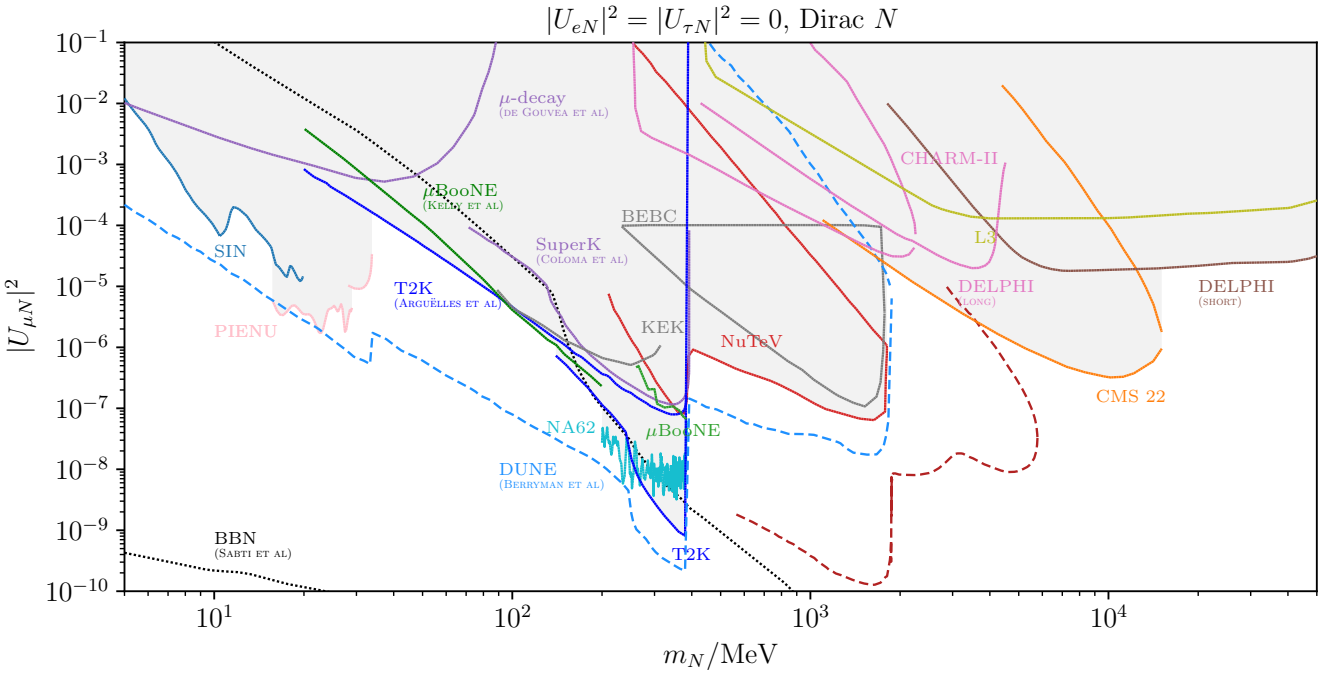

FIG. 2. Constraints on $|U_{\mu N}|^2$ as a function of the HNL mass m_N. Limits shown: μ-decay (de Gouvea et al) [14], μBooNE [15], μBooNE (Kelly et al) [16], BBN (Sabti et al) [2], BEBC [17], CHARM-II [18], CMS 22 [4], DELPHI (long) [6], DELPHI (short) [6], DUNE (Ballett et al) [19], DUNE (Berryman et al) [7], FMMF [20**?**], KEK [8], L3 [21], NA62 [22], NuTeV [23], PIENU [24], PIENU [24], SHiP [12], SIN [25], SuperK (Coloma et al) [26], T2K [13], T2K (Arguëlles et al) [27].

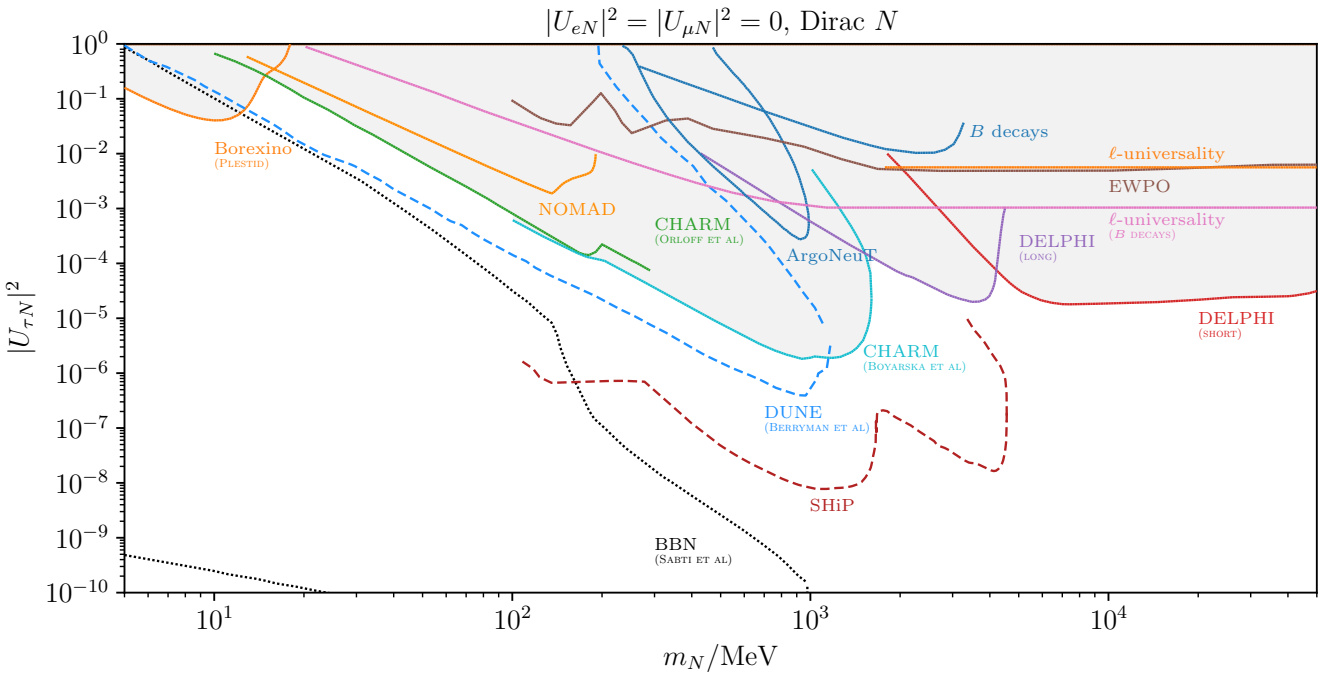

FIG. 3. Constraints on $|U_{\tau N}|^2$ as a function of the HNL mass m_N. Limits shown: B decays [28], ℓ-universality [29], ℓ-universality (B decays) [28], ArgoNeuT [30], BBN (Sabti et al) [2], Borexino (Plestid) [31], CHARM (Boyarska et al) [32], CHARM (Orloff et al) [33], DELPHI (long) [6], DELPHI (short) [6], DUNE (Berryman et al) [7], EWPO [34], NOMAD [35], SHiP [12], T2K (marg.) [13].

[1] G. Aad *et al.* (ATLAS), JHEP **10**, 265 (2019), arXiv:1905.09787 [hep-ex].
[2] N. Sabti, A. Magalich, and A. Filimonova, JCAP **11**, 056 (2020), arXiv:2006.07387 [hep-ph].
[3] F. Bergsma *et al.* (CHARM), Phys. Lett. B **166**, 473 (1986).
[4] A. Tumasyan *et al.* (CMS), (2022), arXiv:2201.05578 [hep-ex].
[5] D. A. Bryman and R. Shrock, Phys. Rev. D **100**, 073011 (2019), arXiv:1909.11198 [hep-ph].
[6] P. Abreu *et al.* (DELPHI), Z. Phys. C **74**, 57 (1997), [Erratum: Z.Phys.C 75, 580 (1997)].
[7] J. M. Berryman, A. de Gouvea, P. J. Fox, B. J. Kayser, K. J. Kelly, and J. L. Raaf, JHEP **02**, 174 (2020), arXiv:1912.07622 [hep-ph].
[8] Y. Asano *et al.*, Phys. Lett. B **104**, 84 (1981).
[9] J. Badier *et al.* (NA3), Z. Phys. C **31**, 21 (1986).
[10] E. Cortina Gil *et al.* (NA62), Phys. Lett. B **807**, 135599 (2020), arXiv:2005.09575 [hep-ex].
[11] D. I. Britton *et al.*, Phys. Rev. D **46**, R885 (1992).
[12] C. Ahdida *et al.* (SHiP), JHEP **04**, 077 (2019), arXiv:1811.00930 [hep-ph].
[13] K. Abe *et al.* (T2K), Phys. Rev. D **100**, 052006 (2019), arXiv:1902.07598 [hep-ex].
[14] A. de Gouvêa and A. Kobach, Phys. Rev. D **93**, 033005 (2016), arXiv:1511.00683 [hep-ph].
[15] P. Abratenko *et al.* (MicroBooNE), Phys. Rev. D **101**, 052001 (2020), arXiv:1911.10545 [hep-ex].
[16] K. J. Kelly and P. A. N. Machado, Phys. Rev. D **104**, 055015 (2021), arXiv:2106.06548 [hep-ph].
[17] A. M. Cooper-Sarkar *et al.* (WA66), Phys. Lett. B **160**, 207 (1985).
[18] P. Vilain *et al.* (CHARM II), Phys. Lett. B **343**, 453 (1995).
[19] P. Ballett, T. Boschi, and S. Pascoli, JHEP **03**, 111 (2020), arXiv:1905.00284 [hep-ph].
[20] E. Gallas *et al.* (FMMF), Phys. Rev. D **52**, 6 (1995).
[21] P. Achard *et al.* (L3), Phys. Lett. B **517**, 67 (2001), arXiv:hep-ex/0107014.
[22] E. Cortina Gil *et al.* (NA62), Phys. Lett. B **816**, 136259 (2021), arXiv:2101.12304 [hep-ex].
[23] A. Vaitaitis *et al.* (NuTeV, E815), Phys. Rev. Lett. **83**, 4943 (1999), arXiv:hep-ex/9908011.
[24] A. Aguilar-Arevalo *et al.* (PIENU), Phys. Lett. B **798**, 134980 (2019), arXiv:1904.03269 [hep-ex].
[25] M. Daum, B. Jost, R. M. Marshall, R. C. Minehart, W. A. Stephens, and K. O. H. Ziock, Phys. Rev. D **36**, 2624 (1987).
[26] P. Coloma, P. Hernández, V. Muñoz, and I. M. Shoemaker, Eur. Phys. J. C **80**, 235 (2020), arXiv:1911.09129 [hep-ph].
[27] C. A. Argüelles, N. Foppiani, and M. Hostert, (2021), arXiv:2109.03831 [hep-ph].
[28] G. Cvetič, F. Halzen, C. S. Kim, and S. Oh, Chin. Phys. C **41**, 113102 (2017), arXiv:1702.04335 [hep-ph].

[29] E. Fernandez-Martinez, J. Hernandez-Garcia, and J. Lopez-Pavon, JHEP **08**, 033 (2016), arXiv:1605.08774 [hep-ph].
[30] R. Acciarri *et al.* (ArgoNeuT), Phys. Rev. Lett. **127**, 121801 (2021), arXiv:2106.13684 [hep-ex].
[31] R. Plestid, Phys. Rev. D **104**, 075028 (2021), arXiv:2010.09523 [hep-ph].
[32] I. Boiarska, A. Boyarsky, O. Mikulenko, and M. Ovchynnikov, Phys. Rev. D **104**, 095019 (2021), arXiv:2107.14685 [hep-ph].
[33] J. Orloff, A. N. Rozanov, and C. Santoni, Phys. Lett. B **550**, 8 (2002), arXiv:hep-ph/0208075.
[34] P. D. Bolton, F. F. Deppisch, and P. S. Bhupal Dev, JHEP **03**, 170 (2020), arXiv:1912.03058 [hep-ph].
[35] P. Astier *et al.* (NOMAD), Phys. Lett. B **506**, 27 (2001), arXiv:hep-ex/0101041.