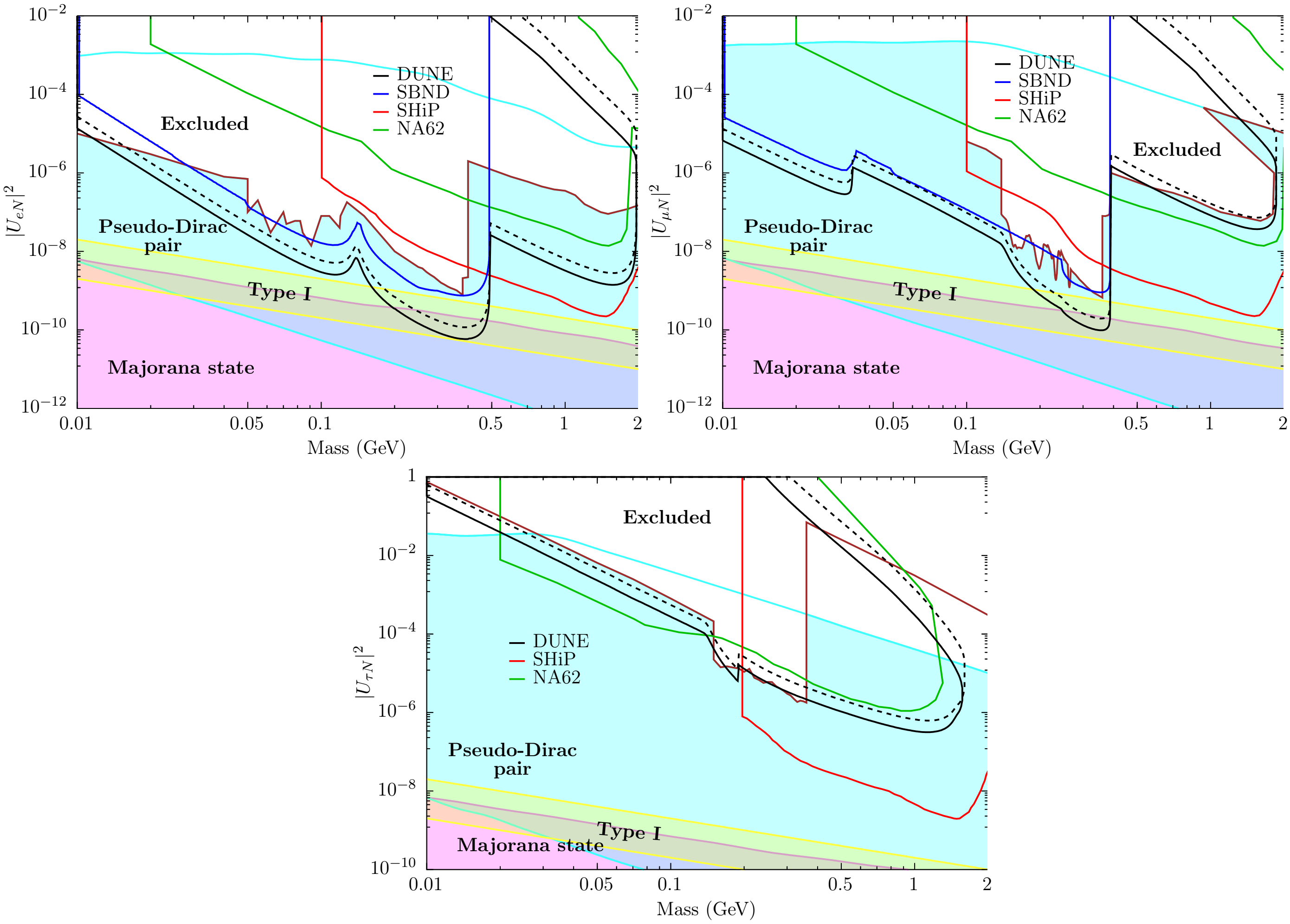

Fig. 8. The 90 % C.L. sensitivity regions for dominant mixings $|U_{eN}|^2$ (top left), $|U_{\mu N}|^2$ (top right), and $|U_{\tau N}|^2$ (bottom) are presented combining results for channels with good detection prospects. The study is performed for Majorana neutrinos (solid) and Dirac neutrinos (dashed), assuming no background. The region excluded by experimental constraints (brown) is obtained by combining the results from PS191 [56, 57], peak searches [52, 54, 55], CHARM [59], NuTeV [61], DELPHI [60], and T2K [73]. The sensitivity for DUNE ND (black) is compared to the predictions of future experiments, SBN [74] (blue), SHiP [110] (red), and NA62 [106] (green). The shaded areas corresponds to possible neutrino mass models considered in this article: the simulations of the ISS (2,2) and ISS (2,3) models where the lightest pseudo-Dirac pair is the neutrino decaying in the ND (cyan); the ISS (2,3) scenario when the single Majorana state is responsible for a signal (magenta); the type I seesaw scenario with a neutrino mass starting from 20 meV to 0.2 eV (yellow).

sufficient precision. The neutrino spectrum component coming from the D_s meson allows for weaker sensitivity to masses above the neutral kaon mass. We conducted the sensitivity study for both scenarios, in which either a Majorana or a Dirac neutrino is the decaying particle.

To appreciate the ND performance, we make a comparison with results of previous experiments, in particular PS191 [56, 57], peak searches [52, 54, 55], CHARM [59], NuTeV [61],