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Test of the seesaw mechanism with neutrino oscillations

With the help of a full Euler-like block parametrization of the flavor structure for the canonical seesaw mechanism, we present the first general and explicit analytical calculations of the light neutrino mass-squared differences, flavor mixing angles and leptonic CP violation responsible for the primary behaviors of neutrino oscillations. Such model-independent results will pave the way for testing the seesaw mechanism and probing its original parameter space at low energies.

Reference 1: *Mapping the sources of CP violation in neutrino oscillations from the seesaw mechanism*, **Zhi-zhong Xing**, *Phys. Lett. B* 856 (2024) 138909; **Reference 2:** *Confronting the seesaw mechanism with neutrino oscillations: A general and explicit analytical bridge*, **Zhi-zhong Xing, Jing-yu Zhu**, *Nucl. Phys. B* 1018 (2025) 117041

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