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Invariance of the Friedberg-Lee translation as a partial flavor symmetry

A neutrino would be the Goldstone-like (massless) fermion if it had a translational symmetry, as first pointed out by D.V.Volkov and V.P. Akulov in their pioneering paper about supersymmetry in 1973. But it was R. Friedberg and T.D. Lee who first applied such a working symmetry to constraining the pattern of lepton flavor mixing in 2006. My talk is intended to explain why the Friedberg-Lee translation may serve as a partial flavor symmetry for charged fermions and massive neutrinos, and especially why it is analogous to a broken mu-tau reflection symmetry in the active neutrino sector.

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