Koide’s Mass Formula for Neutrinos CARL BRANNEN, Liquafaction Corp. — We derive Koide’s mass formula as an eigenvector equation. We show that to within current experimental error, the square roots of the masses of the charged leptons follow the simple equation $(m^{-}_{\ell})^{0.5} = \mu_1(1 + \sqrt{2}\cos(\delta_1 + 2n\pi/3))$ where $\delta_1$ is the interesting number $22222204717(48)$ and $\mu_1$ is a constant. Next we generalize the Koide formula to the neutrinos by assuming that the square root of the mass of the smallest neutrino must be taken to be negative. Then masses of the simple form $(m_\nu^{0})^{0.5} = \mu_0(1 + \sqrt{2}\cos(\delta_1 + \pi/12 + 2n\pi/3))$ where $3\mu_0 = 3^{12}\mu_1$, satisfy recent neutrino oscillation measurements close to the centers of the error bars. Finally, we discuss the preon model for the fermions that led to the above discovery.

Carl Brannen
Liquafaction Corp.

Date submitted: 13 Apr 2006
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