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The harmonic neutron hypothesis: alpha and the annihilation frequency equivalent of the neutron are sufficient to derive the effective fine structure constant at Z DONALD CHAKERES, The Ohio State University — The inverse of the effective fine structure constant at Z, $\alpha^{-1}(m_Z^2)$, is 128.957 $\pm$ .0020. This is derived from α and the annihilation frequency equivalent of the neutron, v_n. The harmonic neutron hypothesis is a non Standard Model, but quite robust. The hypothesis states that the annihilation frequency of the neutron, v_n, 2.2718589 x 10^{23} Hz, is fundamentally linked to other constants as frequency equivalents. v_n raised to simple integer quantum fractions are the degenerate values. $v_n s^{(1/11)}$ equals 132.83343 and is the degenerate α^{-1}value. The hypothesis is based on symmetric inverse pairs where the degenerate values are multiplied and divided by the identical value can both be associated with actual physical constants. In this case $(\alpha^{-1})/v_n s^{(1/11)}$ equals 1.0316379. The hypothesis logically predicts that $v_n s^{(1/11)}/$ 1.0316379 should nearly equal $\alpha^{-1}(m_Z^2)$, in this case128.760. This elegant and simple prediction supports the most basic aspects of the harmonic neutron hypothesis. It is possible to derive a more exact value using a more complicated graphical method.

Donald Chakeres
The Ohio State University

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