Systematic harmonic power laws inter-relating multiple fundamental constants DONALD CHAKERES, The Ohio State University, WAYNE BUCKHANAN, VOLA ANDRIANARIJAONA, Pacific Union College — Power laws and harmonic systems are ubiquitous in physics. We hypothesize that 2, π, the electron, Bohr radius, Rydberg constant, neutron, fine structure constant, Higgs boson, top quark, kaons, pions, muon, Tau, W, and Z when scaled in a common single unit are all inter-related by systematic harmonic powers laws. This implies that if the power law is known it is possible to derive a fundamental constant's scale in the absence of any direct experimental data of that constant. This is true for the case of the hydrogen constants. We created a power law search engine computer program that randomly generated possible positive or negative powers searching when the product of logical groups of constants equals 1, confirming they are physically valid. For 2, π, and the hydrogen constants the search engine found Planck's constant, Coulomb's energy law, and the kinetic energy law. The product of ratios defined by two constants each was the standard general format. The search engine found systematic resonant power laws based on partial harmonic fraction powers of the neutron for all of the constants with products near 1, within their known experimental precision, when utilized with appropriate hydrogen constants. We conclude that multiple fundamental constants are inter-related within a harmonic power law system.

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