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Redefining Planck Mass: Unlocking the Fundamental Quantum of the Universe JOHN LAUBENSTEIN, IWPD Research Center — The large value of the Planck Mass relative to the quantum scale raises unanswered questions as to the source of mass itself. While we wait for experimental verification of the elusive Higgs boson, it may be worth recognizing that Planck Mass is not the result of rigorous mathematics – but rather derived from an intuitive manipulation of physical constants. Recent findings reported by IWPD suggest a quantum scale Planck Mass as small as 10 (-73) kg. At this scale, the Planck Mass joins Planck Length and Time as a truly fundamental quantum entity. This presentation will provide evidence supporting the fundamental quantum nature of a dramatically smaller Planck Mass while discussing the impact of this finding on both the quantum and cosmic scale. A quantum scale Planck Mass will require an accelerating expansion of the universe at an age of 14.2 billion years. No initial conditions are imposed at the earliest Planck Time of 10 (-44) s allowing the universe to evolve as a background free field propagating at the speed of light with a local degree of freedom. This model provides the basis for a quantum theory of gravity and provides a conceptual pathway for the unification of GR and QM.

John Laubenstein
IWPD Research Center

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