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## Auto-stabilized Electron

*Friday, 12 July 2024 17:25 (15 minutes)*

We propose a theory to explain the mechanism that stabilizes an electron. We show that the intrinsic divergences that occur in quantum electrodynamics can be removed by casting it within general relativity. The infinities are compensated by the curvature created by the intense energy density of the electromagnetic field in the vicinity of the electron. Using the concept of hydrostatic stability we find that the outward and inward pressures balance at a radius of  $(\sqrt{\alpha/4\pi}) \times \text{Planck length}$ . The resulting electron mass is  $10^{17}$  GeV. Details of the theory and calculations and results will be presented.

**Primary author:** KARIM, Munawar (Namibia University of Science and Technology)

**Presenter:** KARIM, Munawar (Namibia University of Science and Technology)

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