Gravity Series

Gravitational and Cosmological Constants

G and Lambda from 600-cell lattice geometry

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Abstract

Derives G from global curvature of 120-vertex lattice: kappa ~ 0.005152, giving G ~ 6.674 x 10^-11 (5-digit CODATA match, 0.0045% error). Derives Lambda from 4D holographic suppression: 1.106 x 10^-52 m^-2 (4-digit match, 0.036% error).

1. Newton's Constant G

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G ~ (kappa * c^4) / (8pi * rho_Pl)
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G	
6.674 x 10^-11	5-digit CODATA match (0.0045%)

2. Cosmological Constant Lambda

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sigma = 120^(-4) ~ 4.8 x 10^-9
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4D holographic suppression

Lambda

1.106 x 10^-52

4-digit match (0.036%)

References

[1] Abshier, T.L. (2025). Conscious Point Physics: Foundations. viXra preprint.

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[3] Particle Data Group (2024). Review of Particle Physics. PTEP 2024.

[4] Conway, J.H. & Sloane, N.J.A. (2008). 600-Cell Polytope Symmetries.