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Insights: Publications

The physics origin of the hierarchy of bodies in space

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Here we show that bodies of the same size suspended uniformly in space constitute a system (a “suspension”) in a state of uniform volumetric tension because of mass-to-mass forces of attraction. The system “snaps” hierarchically, and evolves faster to a state of reduced tension when the bodies coalesce spontaneously nonuniformly, i.e., hierarchically, into few large and many small bodies suspended in the same space. Hierarchy, not uniformity, is the design that emerges, and it is in accord with the constructal law. The implications of this principle of physics in natural organization and evolution are discussed.