

Abstract Submitted
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Projective Perspectives on the Grains of Space in Quantum Gravity HAL HAGGARD, Bard College, SIMONE SPEZIALE, Centre de Physique Thorique de Luminy — Direct quantization of the geometry of space provides an intriguing road towards quantum gravity. Semiclassical investigations of this approach have uncovered dynamical polyhedra as classical models for the discrete quantum grains of space. General mathematical theorems guarantee the existence and uniqueness of these polyhedral grains, but as of yet there has been no way to construct them in general. We discuss the use of projective geometry to directly and analytically construct these grains and the role that this broader symmetry can play in a quantum theory of gravity.

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