



CROSS PRODUCTS AND GLEASON FRAMES

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Abstract

In a physical energy explosion, after time is generated, an octonian Fano model allows a 7-dimensional projective extended complex spacetime (\mathbb{C}^3, S^1) for energy carrying systems¹ P . The three quaternionic Pauli matrices show up in the Fano figure as seven cross products GF where the Pauli spin is only one of them. The new dimensions are for Higgs mass, frequency and a rolled light coordinate $S^1 \sim U(1)$. The rolled coordinate is for periodic functions (in complex polar coordinates) and shows up as fibre of the two S^3 , S^5 fibre bundles, belonging to the geometry of the weak and strong nuclear interactions. Essential tools for this model are beside the GF as metrical Gleason frames, the norming of S^5 by S^1 to the complex projective space $\mathbb{C}\mathbb{P}^2 \sim \mathbb{C}^2 \cup S^2$ for P with bounding 2-sphere and, as its symmetry, Moebius transformations which allow pole singularities for spacetime.

Keywords and phrases: cross product, Gleason frame, projective geometry.

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¹ $S^n \subset \mathbb{R}^{n+1}$ are unit spheres with radius $r = 1$.