Abstract Submitted
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**A Visual Representation of the Standard Model** DOUGLAS SWEETSER, none — Software is used to visualize unit quaternions SU(2) as a 3D animation. Random quaternions are run through a quaternion exponential function. The results are sorted by time and placed in a frame of the animation corresponding to their 3D coordinates. The resulting animation shows a sphere with an apparent disdain for the past. The visual representation of electro-weak symmetry looks like a complete sphere with a bias for the past. The animation for U(1)xSU(2)xSU(3) is the smoothest image of an expanding/contracting sphere that could be created. Any pattern of events can be represented by this group. Spheres of slightly different sizes nearby on the manifold would belong to the group Diff(M) which is at the heart of gravity.

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none

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