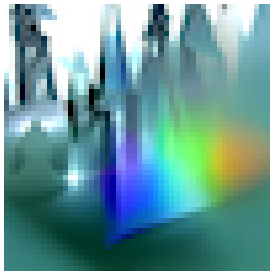

Contribution ID: **24** Type: **not specified**

Spectral triple with real structure on fuzzy sphere

Wednesday 28 September 2022 11:45 (25 minutes)

Here we have illustrated the construction of a real structure on a fuzzy sphere Sˆ*_2 in its spin-1/2 representation. Considering the SU(2) covariant Dirac and chirality operator on Sˆ*_2 given by U. C. Watamura et.al. [Commun. Math. Phys. 183, 365–382 (1997)], we have shown that the real structure is consistent with other spectral data for KO dimension-4 fulfilling the zero order condition, where we find it necessary to enlarge the symmetry group from SO(3) to the full orthogonal group O(3). However, the first order condition is violated, thus paving the way to construct a toy model for an SU(2) gauge theory to capture some features of physics beyond the standard model.

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Session Classification: 28-morning