

Abstract Submitted  
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**Matter and force particle modeling in a four-dimensional spin based space** STEVE MULHALL, None — This model is a study of a discrete linear space of functions that are evaluated as representations of possible internal wave equations of matter and force particles. It is found that the model is a good first construction of a mathematical space that contains the wave equations of all known particles. The model starts with a basic spin function and builds particle wave equations in standard linear fashion in discrete steps through summations of functions. The model is four-dimensional and, in its current state, qualitative with some semiquantitative results. All quarks and leptons in the three generations of matter, along with gravitons, photons, gluons, and weak force bosons, but not the Higgs boson, are described, as well as many composite particles, including atomic nuclei. This poster describes the mathematical structure of the model and the results of calculations of the leptons and quarks of the first generation of matter, pion, and nucleons. A brief description of the second and third generation matter particles and hadrons is also presented. The structures of bosons are then derived by considering the possible interconversions of permutations of fermions. The resultant descriptions of the forces are highly consistent with observation.

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None

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