Quantum Topology of Particles having Exactly Three Generations WAYNE LUNDBERG\textsuperscript{1}, None — Discovery of a Higgs-like boson with a mass of 126 GeV has severely constrained theories of higher-generation and supersymmetric particles. It is natural, then, to examine theories which yield exactly the Standard color and charge quanta, and in three generations. The topology of tripartite particles (those have internal geometry with three-way symmetry), allow exactly three quantum generations. Such a theory, in which a closed string is replaced with a band (having torsion), offers a direct explanation for oscillatory particle states. Further, a theory of finite-dimensional particles has metrics, such as area and curvature, which are identified with terms of the instanton action. Such a particle theory is fundamentally consistent with Standard cosmology and compels a new line of research in the effort to explain dark matter.

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