

# Spinor?!? I Hardly Know 'er!

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Spinors are mysterious geometric objects which were first discovered by Elie Cartan while he was investigating representations of the group of rotations of Euclidean space. They subsequently became associated with the notion of quantum spin (hence the name) and are integral to modern theoretical physics and mathematics, from particle physics (the Dirac equation) to general relativity (Witten's proof of positive energy) and differential geometry (the Atiyah-Singer Index Theorem). In this talk, I'll discuss rotations in dimensions 2 and 3, and exhibit the spin map concretely in the latter case, which will reveal something surprising about 3-dimensional rotations. If time permits, I may even be able (sort of) to define what a spinor is and indicate (maybe) why you should care.