

Abstract Submitted
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An Alternative to Tensors ERIC BROWN, APS — Some of the most beautiful and complex theories in physics are formulated in the language of tensors. While powerful, these methods are sometimes daunting to the uninitiated. I will introduce the use of Clifford Algebra as a practical alternative to the use of tensors. Many physical quantities can be represented in an indexless form. The boundary between the classical and the quantum worlds becomes a little more transparent. I will review some key concepts, and then talk about some of the things that I am doing with this interesting and powerful tool. Of note to some will be the development of rigid body dynamics for a game engine. Others may be interested in expressing the connection on a spin bundle. My intent is to prove to the audience that there exists an accessible mathematical tool that can be employed to probe the most difficult of topics in physics.

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