

1096-01-196

Paul R Bouthellier* (pbouthe@pitt.edu), 504 East Main Street, Titusville, PA 16354. *The Quaternion Wars: The 1890s and the Present.*

In this talk we shall consider the history of quaternions from their creation by Hamilton in 1843 to their use in modern computer graphics. In particular we shall consider the mathematical atmosphere that existed at the time of their creation, the vector vs quaternions wars of the 1890s, and the current debate over the use of quaternions in computer graphics today. Of particular interest is how the debate in the computer science community today over the best way to create rotations closely mirrors the debate in the physics and mathematics community of over one hundred years ago-with the current participants invoking the arguments of Gibbs, Heaviside, and Tait to justify their own views. Matrix and quaternions based rotations and interpolations will be illustrated and compared using graphics packages such as Studio 3D Max, Poser, and Flash. (Received August 15, 2013)