



# Visualizing Quaternions (The Morgan Kaufmann Series in Interactive 3D Technology)

*Andrew J. Hanson*

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Introduced 160 years ago as an attempt to generalize complex numbers to higher dimensions, quaternions are now recognized as one of the most important concepts in modern computer graphics. They offer a powerful way to represent rotations and compared to rotation matrices they use less memory, compose faster, and are naturally suited for efficient interpolation of rotations. Despite this, many practitioners have avoided quaternions because of the mathematics used to understand them, hoping that some day a more intuitive description will be available.

The wait is over. Andrew Hanson's new book is a fresh perspective on quaternions. The first part of the book focuses on visualizing quaternions to provide the intuition necessary to use them, and includes many illustrative examples to motivate why they are important—a beautiful introduction to those wanting to explore quaternions unencumbered by their mathematical aspects. The second part covers the all-important advanced applications, including quaternion curves, surfaces, and volumes. Finally, for those wanting the full story of the mathematics behind quaternions, there is a gentle introduction to their four-dimensional nature and to Clifford Algebras, the all-encompassing framework for vectors and quaternions.

\* Richly illustrated introduction for the developer, scientist, engineer, or student in computer graphics, visualization, or entertainment computing.

\* Covers both non-mathematical and mathematical approaches to quaternions.

\* Companion website with an assortment of quaternion utilities and sample code, data sets for the book's illustrations, and Mathematica notebooks with essential algebraic utilities.

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This Visualizing Quaternions (The Morgan Kaufmann Series in Interactive 3D Technology) is great publication for you because the content that is certainly full of information for you who also always deal with world and get to make decision every minute. This particular book reveal it data accurately using great plan word or we can point out no rambling sentences included. So if you are read that hurriedly you can have whole info in it. Doesn't mean it only gives you straight forward sentences but difficult core information with wonderful delivering sentences. Having Visualizing Quaternions (The Morgan Kaufmann Series in Interactive 3D Technology) in your hand like obtaining the world in your arm, data in it is not ridiculous one. We can say that no publication that offer you world with ten or fifteen tiny right but this e-book already do that. So , this is certainly good reading book. Hey Mr. and Mrs. stressful do you still doubt that will?

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