

QUATERNIONS

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Abstract

CPL library providing a QUATERNION type and operations upon it in a straightforward algebraic syntax.

Usage

quaternions.cpl defines a QUATERNION type, as a STRUCTURED ARRAY with 4 REAL fields named REAL, IMAG, JMAG, KMAG, much like complex.cpl defines a complex number as a STRUCTURE with fields REAL and IMAG.

Functions are provided for multiplication, inverse, exponential, logarithm, power, and for the conversion of a quaternion to an equivalent rotation matrix. The FRI SECTION provided allows these operations to be used in a straightforward algebraic notation, together with linear-space operations that are already implicit in the definition of any STRUCTURED ARRAY.

Example

See `example.cpl`.