Review of: "Representation of physical quantities: From scalars, vectors, tensors and spinors to multivectors"

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Potential competing interests: No potential competing interests to declare.

The authors are presenting an introduction to geometric algebras, starting from quaternions and exterior algebras. The authors are also stating how these concepts may be used to explain physical quantities. Altogether, the paper has an interesting collection of mathematical concepts and their physical interpretations, together with their historical development. It is a comprehensive and nice introduction to geometric algebras. However, it would benefit from careful editing. The list of references is usually in alphabetical order and includes the following elements: Authors or Editors, Year of publication, Title, Edition (if applicable), Place published, Publisher, Series and volume number. One should also be careful if the reference is the original reference of some edited work or just a reference where something is stated.

Some examples of specific remarks:

p.1. Quaternions, introduced earlier

by Hamilton [2] (not an original reference),... According to history, Hamilton introduced quaternions in 1843, and Grassmann, in 1844, wrote his papers in German. English translations were published later. Please give proper references and explain the history better.

p.6, the sentence...Using the basis vectors e_{i}, the wedge product is precisely

defined as e_{i} ∧ e_{j}=-e_{j} ∧ e_{i}. .. is misleading. The wedge product satisfies this property, and maybe it would be nice to really give a definition of the Grassmann algebra.