Reply Letter Referee 2

Dear Editor,
thanks for the work, and many thanks to the Referees for the seriousness with which they have commented. Here is my reply to Referee 2:

these results have been derived fifty years ago by David Hestenes — the suggested reference, along with four others, have been added, and they have been put into context (in the introduction).

The fact that Dirac's gamma matrices are not unique reflects the fact that there are infinitely many inertial frames which are different up to some Lorentz rotations (also infinitely many) [...]. The similar reasoning applies to two other "features". — I have taken away this material and re-written the Introduction focusing only on the polar form as a way to write spinors with real tensors alone.

The Dirac spinor is a 4X1 complex column matrix in its standard form, it has 8 degrees of freedom (8 real scalars), this is isomorphic to the polar form (also has 8 degrees of freedom, represented by 8 observables). So what's meaning of "each one of its components ..."? — the Dirac spinor is a 4X1 complex column matrix in which each of these 4 element is a complex scalar for coordinate transformations but not under Lorentz transformations. This has been now specified in lines 37-49. As a consequence it has 4 complex components, or equivalently it is described by 8 real functions, but it should be specified that these are not 8 real scalars: of the 8 real functions there are only 2 real scalars, and 6 parameters recognized to be the Goldstone fields of the spinor. This is also now better explained in lines 163 to 178 at page 5.