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On the quantumdynamics of measurement with geometric algebra LEON HARDY, MOHAMED ELHAMDADI, University of South Florida — In the spirit of Special Relativity, a notion for the equivalence of quantum observers is given by denying the existence of an absolute quantum mechanical description for the wavefunction of a particular quantum observer. In fact, the language of geometric algebra frees us from any particular representation so that we may construct a spacetime invariant, called the proper observable, between quantum observers from within the framework of Special Relativity. Since we wish to capture the seemingly nonlocal effects of Quantum Mechanics, we establish a description of equivalence in the geometric algebra of the observables of Quantum Mechanics, providing a couple of examples with their consequences. Then we discuss the implications for the equivalence of quantum observers with regard towards Bell's inequality and the measurement of spin.

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