Is Quantum Mechanics Nonlocal? JAMES ESPINOSA, Texas Woman's University — The formalism of Quantum Mechanics can be used to predict eigenvalues and probabilities. So, whether this formalism requires the quantum world to be local or non local should be expressible in probabilistic terms and without the introduction of, so-called, hidden variables. Local or not should be expressible within the theory itself. This would mean that Bell's inequality is in fact empty of physical implications for the quantum theory. We put forth a necessary condition for the quantum theory of the decay of two-spin bound states to be local and find that this condition is satisfied by these systems.

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