



UNIVERSITY OF MIAMI
COLLEGE of
ARTS & SCIENCES

Miami Physics Conference 2025

Date: Dec 12-18, 2025
Location: Lago Mar Resort
Affiliation: University at Buffalo

Dejan Stojkovic

Physics from Quantum Information

Abstract

We formulated an alternative to quantum mechanics, whose basic starting point is pure information represented by binary sequences, without any reference to space, time and matter. Defining correlations between the sequences, we derived highly non-trivial QM results: rules of angular momentum addition, Clebsch-Gordan coefficients and Wigner's d-matrix formula. To test the formalism further, we show how quantum harmonic oscillator arises directly from the correlations between two binary sequences. In the limit where the length of the sequence becomes infinite we recover the standard QM results and the Schrodinger equation.