

Proteins Dynamics, Protein Functions: From Quantum Mechanics to Motors

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Proteins are biological nanomachines, they couple chemical reactions together by burning free energy and turning that free energy into some purposeful function, which can be catalysis of motion or many other things. We really don't understand at a deep level how these nanomachines work, since they mix the quantum regime with the statistical physics regime of non-equilibrium processes. I'll try to summarize what I have learned over the years about how little we really do understand about these incredible macromolecules of life.