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A Proof of Baez -Dolan Stabilization for Rezk's model of weak n-categories

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We will begin with an overview of an old problem, due to Baez and Dolan, that applied abstract homotopy theory to the study of mathematical physics (via topological quantum field theories). I will show how to reduce the statement of the Baez-Dolan Stabilization Hypothesis from a statement in higher category theory (we choose the setting of Rezk's Theta_n spaces) to one in abstract homotopy theory. I'll then sketch how to prove the Stabilization Hypothesis using model categories, operads, and left Bousfield localization. This is joint work with Michael Batanin.