1035-47-590   **Lance Nielsen*** (`lnielsen@creighton.edu`), Lance Nielsen, Department of Mathematics, Creighton University, Omaha, NE 68178. *Weak Convergence and Vector–Valued Functions: Improving the Stability Theory of Feynman's Operational Calculi.*

We present a theorem that establishes a relation between continuous, norm–bounded functions from a metric space into a separable Hilbert space and weak convergence of sequences of probability measures on the metric space. After establishing this result, its application to the stability theory of Feynman's operational calculi will be illustrated. We will see that the existing time–dependent stability theory of the operational calculi will be significantly improved when the operator–valued functions take their values in $\mathcal{L}(\mathcal{H})$, $\mathcal{H}$ a separable Hilbert space. (Received September 11, 2007)

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