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Iowa City, IA. *The Measure of a Measurement.*

While finite non-commutative operator systems lie at the foundation of quantum measurement, they are also tools for understanding geometric iterations as used in the theory of iterated function systems (IFSs) and in wavelet analysis. A key to this is a certain multi-scale splitting of the total Hilbert space: Recursive iterations to further repeated subdivisions; leading to finite and infinite paths. We explore some implications for associated probability measures (in the classical sense of measure theory), specifically their fractal components. (Received August 12, 2008)