1051-18-268 Spencer Stirling* (stirling@spencerstirling.com). Quantum information flow in Braided Categorical Quantum Mechanics.

Over the past decade Categorical Quantum Mechanics has emerged from the efforts of Abramsky, Coecke, Selinger, Duncan, and others. The motivation is to unify von Neumann's axioms for quantum mechanics together with quantum information processes (e.g. teleportation, entanglement swapping) under a higher-level categorical framework.

In this talk I will discuss aspects of a generalization to braided sytems that I and Yong-Shi Wu have been studying. (Received August 26, 2009)