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The Challenge of Optimal Quantum Cloning CHANHYUN PAK, M. THOMAS HOFFMAN, JEAN-FRANCOIS VAN HUELE, Brigham Young Univeristy — The No Cloning Theorem prevents copying an unknown arbitrary quantum state. Buzek and Hillery [.()Buek and Hillery, PRA54(3),1844 (1996)] found ways to get around the No Cloning Theorem, using either a deterministic imperfect cloning method or a probabilistic exact cloning method. In this poster we will discuss optimal cloning procedures, such as using Optimal Symmetric Universal Quantum Cloning Machine and illustrate them with examples.

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