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Jon Yard* (jyard@uwaterloo.ca). *On the existence of symmetric quantum measurements.*

Optimal symmetric quantum measurements, known as SIC-POVMs (Symmetric Informationally Complete Positive Operator-Valued Measures), are currently proved to exist in only finitely many dimensions as orbits of finite Heisenberg groups. Surprisingly, these examples are always defined over explicit class fields of certain real quadratic fields. They possess combined Galois and generalized Clifford symmetries which, when better understood, may lead to a general existence proof in all dimensions. In this talk, I will discuss certain aspects of these symmetries in specific examples and in other prime dimensions. (Received February 21, 2018)