Sharp Measurement

A sharp measurement is defined by Busch et al. [658] [659] as one for which the M_k in Equation (7.1) are projection operators P_k, including projectors that have rank greater than one. Wiseman et al [186, p. 37] define sharp measurement for which the M_k are rank 1 projection operators. Herein, we will adopt the more general definition of sharp measurement proposed by Busch.

   In the case of unsharp observables, there exist examples of joint measurable observables that are not commutative. However, if either A or B are sharp measurements, then joint measurability also implies commutation [229].