Canonical decomposition of dissipative linear relations

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Abstract

This talk is focused in two decomposition for contractions, namely the Sz. Nagy-Foiaş-Langer and von Neumann-Wold decompositions. On the basis of these decompositions, we shall show that any close dissipative relation is separated into the selfadjoint and completely nonselfadjoint parts. In particular, we shall present that the non selfadjoint part of a symmetric relation, which does not admit dissipative extensions, comes from a unilateral shift.