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*Dilation theory, commutant lifting and semicrossed products*

We take a new look at dilation theory for nonself-adjoint operator algebras. Among the extremal (co)extensions of a representation, there is a special property of being fully extremal. This allows a refinement of some of the classical notions which are important when one moves away from standard examples. This leads to variations of the notions of commutant lifting and Ando's theorem. This is applied to the study of semicrossed products by automorphisms, and endomorphisms which lift to the  $C^*$ -envelope. (This is joint work with Elias Katsoulis.)