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*An equivariant weak expectation property and amenable actions*

We introduce an equivariant version of the weak expectation property (WEP) at the level of operator modules over completely contractive Banach algebras. This yields a natural notion of group covariant WEP, related to recent work of Buss–Echterhoff–Willett, but also a dual notion of the  $A(G)$ -WEP for operator modules over the Fourier algebra of a locally compact group  $G$ . These dual notions are related in the setting of  $C^*$ -dynamical systems, where we show that an action  $G \curvearrowright X$  of an exact locally compact group is topologically amenable if and only if  $C_0(X)$  has the  $L^1(G)$ -WEP if and only if the reduced crossed product  $C_0(X) \rtimes G$  has the  $A(G)$ -WEP. Along the way, we answer a question of Anantharaman-Delaroche and generalize the equivalence between topological amenability and Zimmer amenability of the bidual action to the locally compact setting. This is joint work with Alex Bearden and Mehrdad Kalantar.