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Relative selflessness

We introduce and develop a notion of selflessness for inclusions of  $C^*$  algebras with expectation. This significantly generalizes the notion of selfless  $C^*$  algebras, allowing us to make use of free independence in  $C^*$  algebras which are not necessarily simple or monotracial. Using our techniques, we can better analyze the structural properties of tensor products, crossed products, and reduced group  $C^*$  algebras. This work is joint with David Gao, Marius Junge, Srivatsav Kunnawalkam Elayavalli, and Leonel Robert.