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Title: Universal free products of directed graph operator algebras

Abstract: Directed graph algebras provide a tractable and well understood class of operator algebras. To better understand universal free products of operator algebras we focus on the class of directed graph operator algebras. In particular, given two directed graphs G_1 and G_2 with common vertex sets, we investigate the free product of the algebras $C^*(G_1)$ and $C^*(G_2)$ with amalgamation over the subalgebra generated by the vertex projections. To analyse the free products we define a new directed graph G , combining the graphs G_1 and G_2 , together with a coloring function, f , on the edge set. We also look at the nonselfadjoint versions of these algebras. Some foundational results will be discussed and several examples will be explored.