

Problems in the Classification of Small Index Subfactors

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Abstract

There's recently been quite a bit of progress on classifying small index subfactors. I'll explain the general problem, and the overall framework as employed in the successful classification of subfactors with index less than 5 (besides those with trivial standard invariant). Since then, there have been four major advances — results by Liu on the presence of intermediate subfactors, results of Penneys and Bigelow on "stable" principal graphs, results of Penneys extending Jones work on quadratic tangles to obtain new obstructions, and an implementation by Afzaly of a much faster principal graph enumerator, based on the isomorph-free generation techniques of McKay. I'll give an update on where we now stand, and give special attention to the outstanding problems in pushing classifications even further.