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**Scott Morrison\*** ([scott@tqft.net](mailto:scott@tqft.net)) and **Noah Snyder**. *Small fusion categories and subfactors II*. Preliminary report.

As explained in the previous talk there is a correspondence between unitary fusion categories and finite depth subfactors. Under this correspondence objects of small dimension correspond to subfactors of small index. In this talk we summarize previous work on subfactors of small index, explain some new results, and give a peek at work in progress. In particular, we sketch a program which should show that the smallest possible dimension bigger than 2 for an object in a unitary fusion category is  $\sqrt{\frac{5}{2} + \frac{\sqrt{21}}{2}}$ .

This is joint work with Emily Peters, and some of our results are also joint with Stephen Bigelow and Vaughan Jones. (Received August 24, 2009)