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THE $(3+1)$ -FREE CONJECTURE OF CHROMATIC SYMMETRIC FUNCTIONS

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The chromatic symmetric function, dating from 1995, is a generalization of the chromatic polynomial. A famed conjecture on it, called the Stanley-Stembridge $(3+1)$ -free conjecture, has been the focus of much research lately. In this talk, we will be introduced to the chromatic symmetric function, the $(3+1)$ -free conjecture, new cases and tools for resolving it, and answer another question of Stanley of whether the $(3+1)$ -free conjecture can be widened. This talk requires no prior knowledge.