

## Color restricted $n$ -color compositions

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Following work of Agarwal and Andrews on the analogous partitions, in 2000 Agarwal defined  $n$ -color compositions, where a part  $k$  can have one of  $k$  different colors. The dozen or so subsequent papers on this topic have primarily focused on the  $n$ -color compositions that arise when only certain parts are allowed. Here, we focus instead on restricting colors. The resulting sets of  $n$ -color compositions provide combinatorial interpretations for many known integer sequences. We have developed recurrence relations for three very general families of color restricted  $n$ -color compositions and, for several particular cases, direct formulas and bijections using the idea of spotted tilings introduced by the author in 2013. This is joint work with Hua Wang of Georgia Southern University.

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