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Finite bivariate Tratnik functions

In the context of algebraic combinatorics, P - and Q -polynomial association schemes are important objects which are closely related to distance-regular graphs. The polynomials appearing in these structures are classified by Leonard's theorem, and they belong to the discrete part of the $(q-)$ Askey scheme. Moreover, the Terwilliger algebra of these schemes has been studied, and there are connections to the theory of Leonard pairs. In the recent years, progress has been made to extend these concepts to the case where the polynomials involved are multivariate. However, a classification analogous to Leonard's theorem is lacking in the multivariate case. With the purpose of progressing in that direction, I will discuss work concerning certain finite families of bivariate functions, said of Tratnik type, which are expressed as an intricate product of univariate polynomials of the $(q-)$ Askey scheme. The goal is to classify such functions which satisfy some generalized bispectral properties, that is, two recurrence relations and two $(q-)$ difference equations of certain types.