

Separability Problems in Creative Telescoping

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For given multivariate functions specified by algebraic, differential or difference equations, the separability problem is to decide whether they satisfy linear differential or difference equations in one variable. In this talk, we will explain how separability problems arise naturally in creative telescoping and present some criteria for testing the separability for several classes of special functions, including rational functions, hyperexponential functions, hypergeometric terms, and algebraic functions.

Keywords

Creative telescoping, Separable functions, Separation of variables, Zeilberger's algorithm