

Laguerre Multiplier Sequences: Towards a Classification Theorem

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Abstract

In the first of the two lecture sequence we review definitions and results from the theory of multiplier sequences. Whether a sequence of non-negative real numbers is a multiplier sequence depends on the chosen bases (for the appropriate polynomial space). Two bases of interest are the basis consisting of generalized Hermite polynomials and the basis consisting of generalized Laguerre polynomials. With the basic tools in hand we classify all H-multiplier sequences and present some results towards the classification of L-multiplier sequences.