

An elliptic generalization of the Koornwinder polynomials

Abstract

One of the recent developments in the theory of hypergeometric functions is the extension from basic (or q -) hypergeometric functions to "elliptic" hypergeometric functions (in which q is replaced by a point on an elliptic curve). It is thus natural to wonder whether the Macdonald polynomials admit such elliptic versions. For general root systems (including A_n !), this is still wide open, but in the Koornwinder case, such an extension exists. I'll describe how to construct these abelian functions, and prove that they satisfy analogues of the Macdonald conjectures.