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Two finite classes of orthogonal functions. (English) Zbl 1292.42017

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The Fourier transforms of the two finite sequences of orthogonal polynomials with weight functions $x^{-2a}(1+x^2)^b$ and $x^{-2a}e^{-1/x^2}$ remained uncalculated. The authors determine these Fourier transforms, obtaining two new finite families of orthogonal special functions. Furthermore, by means of the Parseval identity, their orthogonality relations are given.

Reviewer: [Pablo Sánchez-Moreno \(Granada\)](#)

MSC:

- 42C05 General theory of orthogonal functions and polynomials
- 33C47 Other special orthogonal polynomials and functions
- 33C45 Orthogonal polynomials and functions of hypergeometric type

Keywords:

finite symmetric orthogonal polynomials; Fourier transform; orthogonality relation; Parseval identity; hypergeometric functions

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