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Alexander I. Aptekarev, Sergey A. Denisov and Maxim L. Yattselev*, Department of Mathematical Sciences, IUPUI, 402 North Blackford Street, Indianapolis, IN 46202. *Self-adjoint Jacobi matrices on trees and multiple orthogonal polynomials.*

We consider a set of measures on the real line and the corresponding system of multiple orthogonal polynomials (MOPs) of the first and second type. Under some very mild assumptions, which are satisfied by Angelesco systems, we define self-adjoint Jacobi matrices on certain rooted trees. We express their Green's functions and the matrix elements in terms of MOPs. This provides a generalization of the well-known connection between the theory of polynomials orthogonal on the real line and Jacobi matrices to higher dimension. (Received June 15, 2018)