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**Ehssan Khanmohammadi\*** (ehssan@fandm.edu). *A structured inverse spectrum problem for unbounded operators.*

We present our extensions of some recent results on inverse eigenvalue problems of finite graphs to the infinite setting by means of functional analytic methods. Our work is inspired and it involves a discrete version of the potential energy operator in quantum mechanics.

Given an infinite graph  $G$  on countably many vertices and a closed, infinite set  $\Lambda$  of real numbers, we show, among other things, the existence of an unbounded operator whose graph is  $G$  and whose spectrum is  $\Lambda$ . (Received September 26, 2017)