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**Anton Gorodetski\*** ([asgor@math.uci.edu](mailto:asgor@math.uci.edu)). *Spectrum of Square Fibonacci Hamiltonian and sums of Cantor sets.*

We will discuss the properties of the spectrum of the Square Fibonacci Hamiltonian. The question reduces to the study of properties of sums of two dynamically defined Cantor sets. We will discuss the current "state of art" of the subject, as well as the results on absolute continuity of convolutions of singular measures (joint with D.Damanik and B.Solomyak) that also provide much better understanding of the density of states measure of Square Fibonacci Hamiltonian. We will also give a definition of "Cantorval" (initially introduced by C.Moreira), and formulate some tempting conjectures on appearance of Cantorval as spectrum of this operator. (Received August 13, 2015)