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## Wave Functions of Channeling Electrons in Regular and Chaotic Cases

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The motion of fast electrons through the crystal under axial channeling could be both regular and chaotic [1, 2]. The chaotic character of quantum systems manifests itself in different ways [3]. The evidence of quantum chaos in statistical properties of energy spectra of channeling electrons had been demonstrated in [4]. In the present report we demonstrate qualitative difference between regular and chaotic cases in individual quantum states, that is in morphology of stationary wave functions for electron channeling in the field of a single [110] atomic string of silicon crystal and a pair of neighboring strings.

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