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blvd, Birmingham, AL 35294-1170, and **Young-Ran Lee** (younglee@sogang.ac.kr), Department
of Mathematics, Sogang University, Seoul, South Korea. *KAM method and Spectral Properties of
the Limit-Periodic Schroedinger Operator in Dimension Two.*

We consider the application of KAM (Kolmogorov-Arnold-Moser) method for spectral investigation of the Schroedinger operator $H = -\Delta + V(x)$ with a limit-periodic potential $V(x)$ in dimension two. We prove that the spectrum of H contains a semiaxis and there is a family of generalized eigenfunctions at every point of this semiaxis with the following properties. First, the eigenfunctions are close to plane waves $e^{i\langle \vec{k}, \vec{x} \rangle}$ at the high energy region. Second, the isoenergetic curves in the space of momenta \vec{k} corresponding to these eigenfunctions have a form of slightly distorted circles with holes (Cantor type structure). (Received January 16, 2011)