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Diana Davis and **W. Patrick Hooper*** (whooper@ccny.cuny.edu), 160 Convent Ave, New York, NY 10032. *Periodicity and ergodicity in the trihexagonal tiling.*

We consider the dynamics of light rays in the trihexagonal tiling where triangles and hexagons are transparent and have equal but opposite indices of refraction. We find that almost every ray of light is dense in a region of a particular form: the region has infinite area and consists of the plane with a periodic family of triangles removed. We also completely describe initial conditions for periodic and drift-periodic light rays. (Received September 01, 2016)