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Yitwah Cheung* (cheung@math.sfsu.edu), Mathematics Department, 1600 Holloway, TH 950, San Francisco, CA 94132, and **Pascal Hubert** (hubert@cmi.univ-mrs.fr) and **Howard Masur** (masur@math.uic.edu). *Topological dichotomy versus strict ergodicity.*

Let P be a rational polygon, i.e. a polygon whose angles are rational multiples of π . We say P satisfies *topological dichotomy* if for every direction θ , either every orbit with initial direction θ is dense or every orbit with initial direction θ is closed. We say P is *strictly ergodic* if every minimal direction is uniquely ergodic. It is well-known that lattice polygons satisfy both of these properties. In this talk we sketch a proof that the $(3, 3, 4) * \frac{\pi}{10}$ isosceles triangle satisfies topological dichotomy but not strict ergodicity. This is joint work with Pascal Hubert and Howard Masur. (Received September 10, 2007)