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Christopher L Cox* (clcox@udel.edu). *Obstructions to Ergodicity in No-slip Billiards.*

No-slip billiards are dynamical systems based on a model in which linear and angular momentum may be exchanged at boundary collisions. We give an analytic proof of an experimentally verified conjecture that a large class of two dimensional billiards are not ergodic. New numerical results consider examples involving multiple body systems and three dimensional systems. (Received September 26, 2017)