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Whispering gallery orbits in Sinai oscillator trap.

Experimental realizations of trapping Bose-Einstein condensate lead to a Hamiltonian system of a classical particle bouncing off a convex scatterer in the field of an attracting potential. It is shown by application of KAM theory that under some natural conditions there exists positive measure of quasiperiodic solutions near the scatterer’s boundary. (Received August 10, 2020)