Approximated Poncelet configurations.

Summary: In this short note we present the approximate construction of closed Poncelet configurations using the simulation of a mathematical pendulum. Although the idea goes back to the work of Jacobi, only the use of modern computer technologies assures the success of the construction. We present also some remarks on using such problems in project based university courses and we present a Matlab program able to produce animated Poncelet configurations with given period. In the same spirit we construct Steiner configurations and we give a few teaching oriented remarks on the Poncelet grid theorem.

Classification: G74 G75 U74 U75

Keywords: mathematical pendulum; computer simulation; Poncelet porism; Steiner porism; Poncelet grid