

Abstract Submitted
for the TSS09 Meeting of
The American Physical Society

A Reconfigurable Stepping Motor CHARLES ROGERS, RICHARD SELVAGGI, Texas A&M University - Commerce — Multiphase brushless actuators, commonly known as the stepper motors, are ubiquitous for many precision control applications. Developments in the microelectronics have lead to their use as efficient drive motors for modern electric vehicles. Understanding the physics and the control logic for interfacing these transducers continues to be important for scientists and engineers. An overview of the stepping motor principles and interfacing requirements is presented and a simple working model used to teach the concepts of stepper motors is described and demonstrated. This model was used to design a much larger stepper motor required to precisely rotate a massive optical system in the undergraduate advanced physics laboratory.

Charles Rogers
Texas A&M University - Commerce

Date submitted: 05 Mar 2009

Electronic form version 1.4