# SAIP2014

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## Modeling physical phenomena with permanent magnets

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**Abstract** :

Although permanent magnets are magnetic dipoles, by carefully orienting them, a number of electrostatic as well as magnetic, monopolar, and dipolar phenomena can be modeled for teaching purposes. The simpler ones involve particle collisions. However, it is also possible to model Electron Spin Resonance, Nuclear Magnetic Resonance, and to illustrate the principles of Magnetic Resonance Imaging. Particle trapping, sound waves, shock waves, and dynamic stabilization can also be visualized for purposes of teaching and learning.We describe several magnetic simulations and explain their educational potential.

**Award** :

No

**Level** :

NA

**Paper** :

No

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