Forces between arrays of permanent magnets of basic geometric shapes - DTU Orbit (18/09/2019)

**Forces between arrays of permanent magnets of basic geometric shapes**

We provide formulas for evaluating the magnetic force between two permanent magnet arrays, regularly spaced over a square lattice. We focus on three basic shapes of magnets constituting the arrays: cylinder, sphere and rectangular prism. When the lattice parameter is large, the expressions can be used to calculate the force between two single magnets in a computationally efficient way. The calculations are validated experimentally by measuring the attraction force between two single permanent magnets, where we demonstrate a fair agreement within about 15%.

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