

ABSTRACT

A magnet array (100) and a magnetically levitated planar motor are provided. The magnet array includes: linear Halbach magnet arrays (120, 130) and two-dimensional Halbach magnet arrays (110). The linear Halbach magnet arrays and the two-dimensional Halbach magnet array together form a square magnet array, with the two-dimensional Halbach magnet arrays disposed at respective diagonal corners of the square magnet array. The magnet array formed of both the two-dimensional Halbach magnet arrays and linear Halbach magnet arrays allows for a higher thrust constant of the magnetically levitated planar motor, when compared to an equally-sized magnet array formed simply of linear Halbach magnet arrays.