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## **Modified Halbach Magnets in Medical Science Applications**

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Dipole and Quadrupole magnets or a combination of both with rather strong magnetic fields are required in many medical applications. Although such magnets can be built with warm temperature electromagnets, under certain physical conditions such electromagnets can be replaced by Halbach type permanent magnets in combination with rather small inexpensive electromagnets to provide variability of the magnetic field. In this paper we provide results from 2D and 3D calculations<sup>1</sup> which compare electromagnets with Halbach type of permanent magnets.

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