Fringe Field Modelling of Multipole Devices, J.I.M. BOTMAN, S.J.L. VAN EIJNDHOVEN, H.L. HAGEDOORN, R.M.G.M. TRINES, TUE*; T.J. SCHEP, RIJNHUIZEN** - The scalar and vector potentials of magnetic multipole devices have been investigated. Special attention has been paid to the fringe field region. Pseudo differential operators derived from Bessel functions and Fourier theory have been used to obtain the multipole coefficients of the potential. The fringe fields have been fitted using a finite basis of spline-like elements. The problem of finding the best fit for a series of field measurements has been written in matrix form, which facilitates computer use.

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