

Lattice Locations of ^{12}B in CaB_6

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The nuclear quadrupole interaction of the short-lived β -emitter ^{12}B implanted into CaB_6 crystal has been studied by means of modified β -NMR (β -NQR) technique. The electric field gradient at the implanted ^{12}B was found to be $q = -(1.34 \pm 0.05) \times 10^{21} \text{ V/m}^2$ at room temperature. From this result it is concluded that the ^{12}B probe nuclei are mainly implanted in the substitutional boron site and are applicable to systematic NMR studies of ferromagnetic La doped CaB_6 .

Key words: Recoil Implantation; β -NMR; Electric Field Gradient; CaB_6 .