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Platform Session I

## $^{11}\text{B}$ NMR Study of Boron-doped Graphite as the Anode for Lithium Rechargeable Battery

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As the anode material, introducing boron in graphite has been well known method to increase the charge-discharge capacity of lithium rechargeable battery. Herein 1, 2.5, 5, and 7 wt. % of boron carbide ( $\text{B}_4\text{C}$ ) were mixed to dope boron into carbon matrices during the graphitizing process. In boron-doped graphite, the states of boron in carbon was also estimated via  $^{11}\text{B}$  NMR spectra. The  $^{11}\text{B}$  NMR lines of doped boron in graphite were interpreted as the quadrupolar coupling constant,  $Q_{\text{CC}} \sim 3.2$  MHz by the second order quadrupolar interaction. This result was well matched via the  $^{11}\text{B}$  NMR spectra on 4.7T and 7.05T experiments. The Non-doped (interstitial) borons were complicated to interpret. Also, X-ray diffractometry and electrochemical property measurement were used to support this study.