## Updated Report on Conversion of Nano-Carbon to Nano-onion and Nano-Backy Diamond with Low Energy Electron Beam Irradiation

K. Uemura<sup>1</sup>, E.Osawa<sup>2</sup>, P.Raharjo<sup>3</sup>, and N.N.Koval<sup>4</sup>

<sup>1</sup>ITAC Ltd. (Japan), Tomsk Polytechnic Univ.(Russia), <sup>2</sup>NanoCarbon Research Institute Ltd.(Japan) <sup>3</sup>ITAC Ltd. Nagata-Seiki Co., Ltd.(Japan) <sup>4</sup>Institute of High Current Electronics, RAS Tomsk(Russia)

Two types electron beam generating systems were applied for electron irradiation to nanocarbon. The one is explosive electron emission and the other is the high current low energy electron beams. The conversion of nano-carbon to nano-onion was determined with TEM. The effect of the catalysis for the conversion is also discussed here. The author reports the updated experiment status to convert also from nano-onion to nano-Backy diamond in plasma. This may lead to generate the nano-diamond in industrial scale with the competitive pricing. This report is on the experiments status, energy conditions, and effect of the catalysis for the conversion with the consideration on the conversion process.