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Metallic carbon at high pressure and low temperature KATSUYA SHIMIZU, MAEDA KOKI, MASAFUMI SAKATA, KYOKUGEN, Osaka University, MUTSUAKI MURAKAMI, KANEKA Co., KYOKUGEN TEAM, KANEKA TEAM — Graphite shows phase transition into hexagonal diamond by an application of pressure at room temperature. We have studied the pressure-induced phase transition to hexagonal or cubic diamond with Raman spectroscopy and resistance measurements using highly crystallized graphite films prepared by heat treatment of carbonized polyimide films. Inhomogeneous resistivity between current direction along ab-plain and c-axis was found to unite by squeezing at low temperature.

Katsuya Shimizu
Osaka University

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