

Abstract Submitted  
for the MAR17 Meeting of  
The American Physical Society

**CVD Growth of Bi<sub>2</sub>Se<sub>3</sub> Crystals** RYUTA YAGI, TAISHI TAKEGAWA, ADSM, Hiroshima University — We have studied condition for CVD Bi<sub>2</sub>Se<sub>3</sub> growth in detail. Morphology of grown crystal varied drastically depending on temperature of substrate, flow rate of transport gas, temperature of source materials and catalysts. At an optimum condition we could obtain thin single crystals which were hexagonal in shape. At lower temperatures, we have obtained thin wire single crystals. Magneto transport measurement indicated signature of weak anti-localization. Carrier mobility was as large as 2700 cm<sup>2</sup>/Vs, however two-dimensional carrier density was significantly large  $\sim 3.6 \times 10^{13}$  cm<sup>-2</sup> possibly due to vacancy of Se atoms.

Ryuta Yagi  
ADSM, Hiroshima University

Date submitted: 14 Nov 2016

Electronic form version 1.4