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**Cyclotron-resonance-induced photovoltaic effect in high-mobility graphene in the quantum Hall regime** SATORU MASUBUCHI, MASAHIRO ONUKI, MIHO ARAI, Institute of Industrial Science, University of Tokyo, Japan, KENJI WATANABE, TAKASHI TANIGUCHI, National Institute for Material Science, Japan, TOMOKI MACHIDA, Institute of Industrial Science, University of Tokyo, Japan — We have investigated the infrared photoinduced voltage $\Delta V$ in high-mobility graphene on hexagonal boron nitride in the quantum Hall regime. We observed $\Delta V$ of up to several $\mu$V at $\nu = \pm 2$ quantum Hall states under the cyclotron resonance conditions. The dependence of $\Delta V$ on the bias current indicates that $\Delta V$ signals derive from the photovoltaic effect rather than the bolometric effect. The dependence of $\Delta V$ on magnetic field direction and measurement geometry suggest the edge channel transport as an origin of photovoltaic effect. $\Delta V$ signals were robust up to $T = 180$ K, indicating that $\Delta V$ signals can be used for developing novel terahertz photodetectors operating at high temperatures.

Satoru Masubuchi
Institute of Industrial Science, University of Tokyo, Japan

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