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Scanning photocurrent microscopy of graphene subjected to a magnetic field HELIN CAO, GRANT AIVAZIAN, JASON ROSS, SANFENG WU, PASQUAL RIVERA, DAVID COBDEN, XIAODONG XU, Department of Physics, University of Washington — The optoelectronic properties of graphene, converting light into photocurrent, are of great interest for both fundamental reasons and for device applications due to graphene's unique band structure and high carrier mobility. A photocurrent response has been observed in many previous measurements on a variety of graphene junction structures, such as single-to-bilayer junctions, p-n junctions, and graphene-metal junctions. Here we investigate the photocurrent response of graphene field-effect-transistor devices subjected to a perpendicular magnetic field. We will present scanning photocurrent microscopy results as a function of magnetic field and temperature, and discuss the underlying mechanisms.

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