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Ultrafast carrier dynamics of SmB₆ SANJAY ADHIKARI, West Virginia University, YANJUN MA, CHANG-BEOM EOM, UWM, JING XIA, UCI, CHENG CEN, West Virginia University — SmB₆, a Kondo insulator, has generated lots of interest recently due to the proposed topological insulator state at low temperature. Ultrafast spectroscopy can produce valuable information on carriers/lattice dynamics and their interactions. Here we report femtosecond pump-probe experiment performed in SmB₆ single crystals and epitaxial thin films at variable temperatures. The observed carrier relaxations as well as different collective oscillation modes in GHz - THz range allow us to study the hybridization gap and the carrier coherence in different samples.

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