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Anisotropic transient reflection spectrum of Black Phosphorus thin films SHAOFENG GE, ZHIMING ZHANG, QIU JUN, Peking Univ, JUNKU LIU, China Academy of Space Technology, XUEFENG LIU, QINSHENG WANG, DONG SUN, Peking Univ — We present an experimental investigation on the ultrafast dynamics of the black phosphorus film, which is studied by femtosecond transient reflection spectrum. The results show that the transient reflection spectrum is polarization sensitive to both pump and probe laser pulse. The pump polarization has effect on the absorption of photons which determines the magnitude of the signal while the probe polarization has effect on the shape of the signal which indicates it correspond to different dynamics for different probe polarization. Moreover, the temperature dependent and pump power dependent has been performed.

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