

Abstract Submitted
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Measurement of the optical dielectric function of transition metal dichalcogenide monolayers: MoS₂, MoSe₂, WS₂ and WSe₂ ALBERT RIGOSI, YILEI LI, ALEXEY CHERNIKOV, XIAN ZHANG, HEATHER HILL, AREND VAN DER ZANDE, DANIEL CHENET, EN-MIN SHIH, JAMES HONE, TONY HEINZ, Columbia Univ — We report a determination of the complex in-plane dielectric function of monolayers of four transition-metal dichalcogenides: MoS₂, MoSe₂, WS₂, and WSe₂, for photon energies from 1.5 – 3 eV. The results were obtained from reflection spectra using a Kramers-Kronig constrained variational analysis. From the dielectric functions, we obtain the absolute absorbance of the monolayers. We also provide a comparison of the dielectric function for the monolayers with the corresponding bulk materials.

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