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Raman scattering of 2D materials TING YU, Division of Physics and Applied, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore 637371 2, RIICHIRO SAITO, Department of Physics, Tohoku University, Sendai, Miyagi 9808578, Japan, MILDRED DRESSELHAUS, Department of Electrical Engineering and Computer Science; Department of Physics, Massachusetts Institute of Technology, Cambridge, Massachusetts 021 — Motivated by graphene, two-dimensional (2D) materials become the center of current Nanoscience and Nanotechnology. In this talk, I will report our recent works on Raman scattering study of 2D materials such as graphene and MoS2. In detail: the in-plane and out-of-plane arrangement of carbons in graphene layers are identified by both Raman and HRTEM with atomic resolution; the structure evolution of molecules anchored on the surface of graphene is studied by Raman; the behavior of Dirac Fermions of graphene in a magnetic field is probed; the strain effects on MoS2 and the identification of crystallographic orientation of MoS2 are also discussed. The results presented here are highly relevant to the fundamental and applications of graphene and other 2D transition metal dichalcogenides (TMDs)..

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