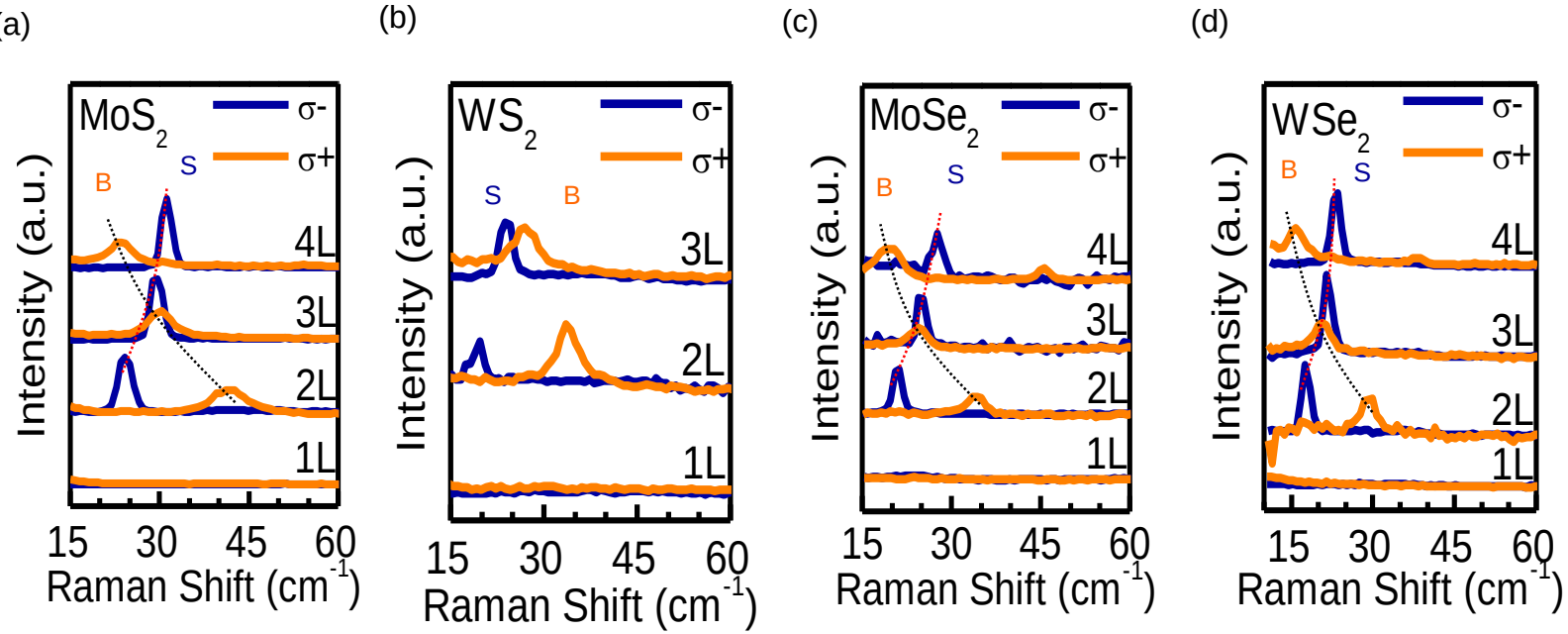
A New Metrological Tool: Helicity Resolved Low Energy Raman Scattering of 2D Semiconducting Transition Metal Dichalcogenides

A new optical method for investigating the quantum character of two-dimensional (2D) transition metal dichalcogenide (TMDC) materials. This technique represents a new spectroscopic metrological tool for investigating the “valleytronic” quantum physics of electrons in these novel materials.



The helicity resolved shear (S) and breathing (B) modes for (a) MoS_2 (b) WS_2 (c) $MoSe_2$ and (d) WSe_2. The evolution of sheer mode and breathing modes are guided by the red and black dash curves, respectively.

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