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Linearly dispersing plasmons in monolayer transition metal dichalcogenides DAVID ABERGEL, Nordita, KOSTYANTYN KECHEDZHI, University of Maryland — We describe the collective excitations of the electronic liquid in monolayer transition metal dichalcogenides such as MoS_2 in a strong Zeeman field. The combination of the Dresselhaus type spin-orbit coupling and the Zeeman field lifts the valley degeneracy, and this manifests in the appearance of an additional plasmon mode that has linear dispersion. There is a well-defined quasiparticle peak in the spectral function which corresponds to this second mode.

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