Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Collective charge and spin excitations in graphene with in-plane magnetic fields[1] MATTHEW ANDERSON, CARSTEN ULLRICH, Univ of Missouri - Columbia — Plasmonics in graphene is a subject of much current interest, with many prospects for novel applications. However, the dynamics of collective spin excitations and spin waves in graphene has been much less explored. Here, we study the collective excitations of doped graphene in the presence of in-plane magnetic fields. These excitations can be divided into spin-conserving and spin-flip channels. We calculate the dispersions of charge and spin plasmons using time-dependent density-functional methods within a standard tight-binding approach. The effects of spin-orbit coupling on the spin excitations will be discussed.

Matthew Anderson
Univ of Missouri - Columbia

Date submitted: 11 Nov 2016   Electronic form version 1.4