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Colossal spin-orbit coupling in functionalized graphene JAYAKUMAR BALAKRISHNAN, GAVIN KOON, BARBAROS OEZYILMAZ, Department of Physics, National University of Singapore — Graphene's low intrinsic spin orbit (SO) interaction strongly limits the realization of several functional spintronics devices. It is therefore quite desirable to develop methods to tune this SO coupling strength. Among the different approaches, the functionalization of graphene seems to be more promising from an application perspective. Recent theoretical and experimental results on functionalized graphene have shown interesting magnetic properties. Here, we will show our preliminary spin-transport results on such functionally modified graphene and discuss the various possibilities it holds for future graphene-based spintronics applications.

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