DSpace@IISERMohali (/jspui/)
/ Publications of IISER Mohali (/jspui/handle/123456789/4)
/ Research Articles (/jspui/handle/123456789/9)

Please use this identifier to cite or link to this item: http://hdl.handle.net/123456789/4690

Title:	Graphene oxide and its derivatives as potential Ovchinnikov ferromagnets
Authors:	Ali, Anzar (/jspui/browse?type=author&value=Ali%2C+Anzar)
Keywords:	Graphene oxide derivatives potential Ovchinnikov
Issue Date:	2021
Publisher:	IOP Science
Citation:	Journal of Physics Condensed Matter, 33(37).
Abstract:	Ovchinnikov postulated the possibility of ferromagnetism in organic compounds having a mixed density of sp3 and sp2 carbon atoms. Such systems provide an interesting avenue for exploring magnetism in the absence of the quintessential d- and f-block elements as ingredients. As graphene oxide (GO) and its derivatives naturally possess a mixture of sp3 and sp2 carbon atoms, it is pertinent to look at them as potential candidates for Ovchinnikov ferromagnetism. We have looked at the evolution of magnetic property in a series of GO samples with a gradual increase in the degree of oxidation and hence the sp3/sp2 fraction. Starting with a GO sample with a high sp3/sp2 ratio, we utilize chemical reduction technique to prepare another set of reduced graphene oxide (rGO) samples. Magnetization measurements on these samples further illustrate the importance of sp3/sp2 fraction on magnetic behavior suggesting GO and its derivatives as a potential Ovchinnikov ferromagnet candidate. The evolution of magnetic moment with sp3/sp2 carbons can be utilized in carbon based spintronic applications.
Description:	Only IISERM authors are available in the record
URI:	https://doi.org/10.1088/1361-648x/ac0d84 (https://doi.org/10.1088/1361-648x/ac0d84) http://hdl.handle.net/123456789/4690 (http://hdl.handle.net/123456789/4690)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format	
Need To Add…Full Text_PDF..pdf (/jspui/bitstream/123456789/4690/1/Need%20To%20Add%e2%80%a6Full%20Text_PDF..pdf)	Only IISERM authors are available in the record	15.36 kB	Adobe PDF	View/Open (/jspu

Show full item record (/jspui/handle/123456789/4690?mode=full)

(/jspui/handle/123456789/4690/statistics)