Graphene Deuterium Loading at CIEMAT

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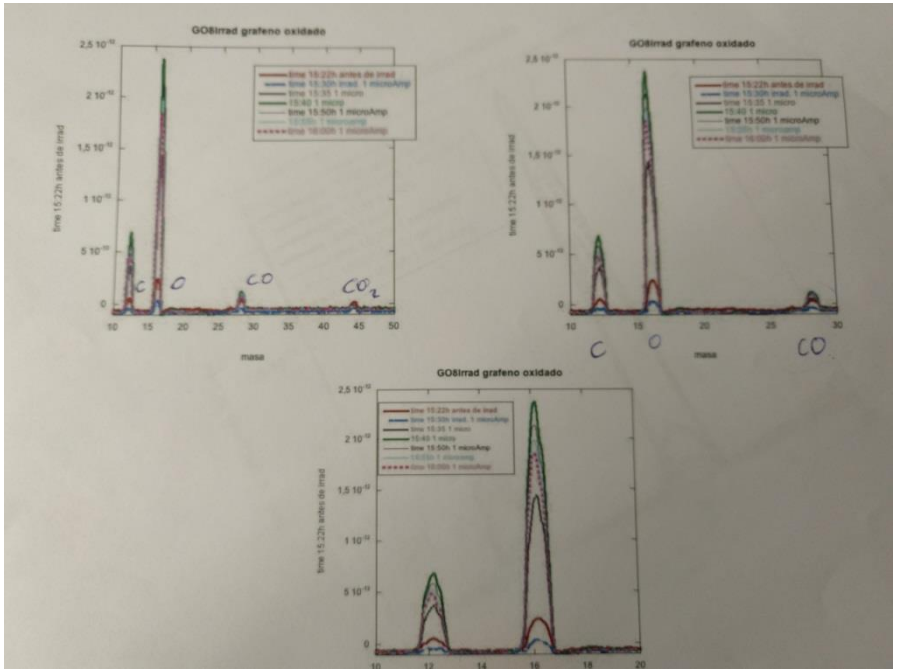
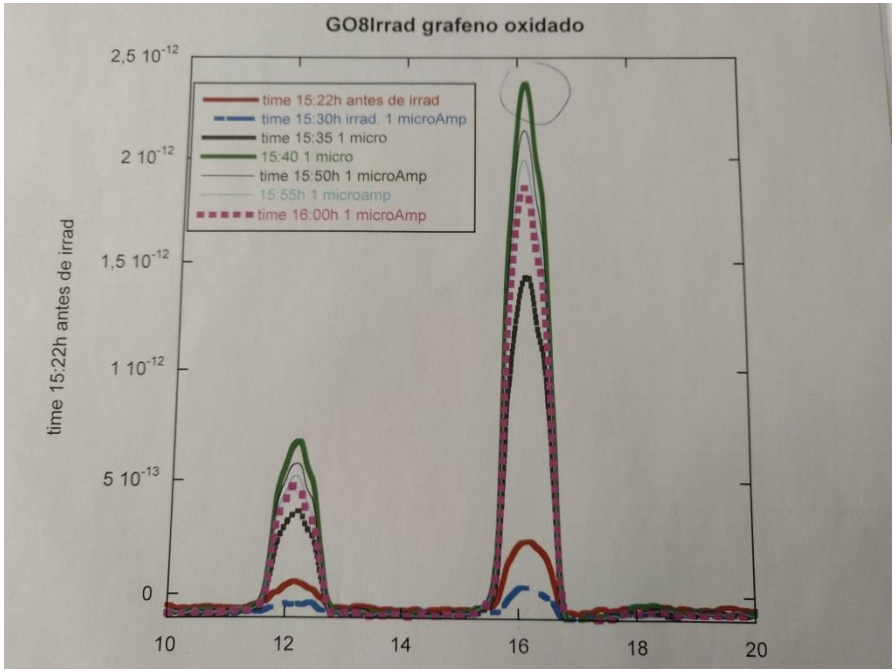
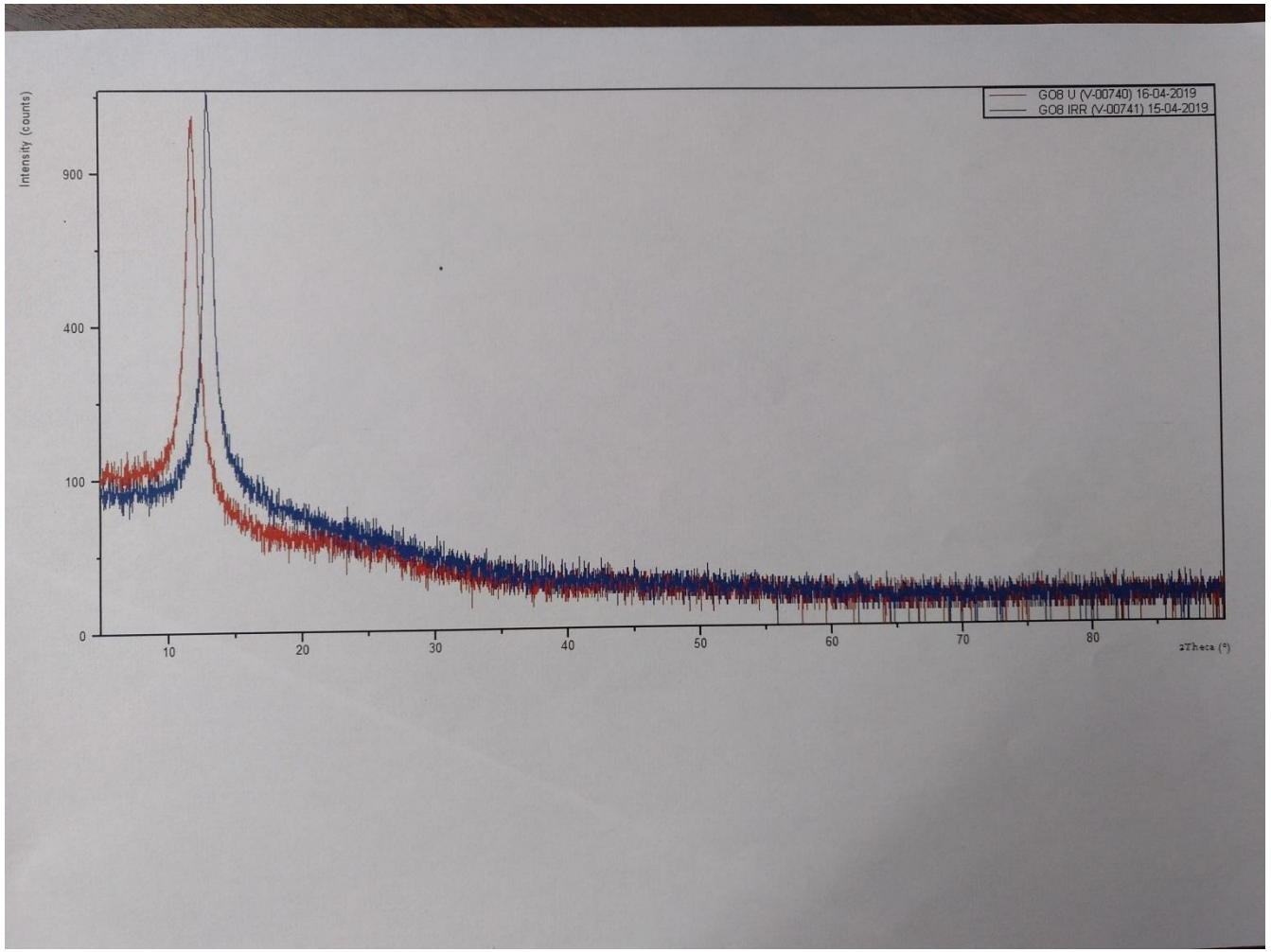
- **PREVIOUS WORK**: Bulk graphite was succesfully deuterium loaded during electron irradiation (observed by SIMMS and THD).
- **ON-GOING WORK**: Damage evaluation during electron irradiation of reduced graphene oxide (oxygen reduction has been observed to occur keeping good crystalinity, see figures).

  Now graphene single layer on cooper provided by UPM is been evaluated in terms of electron irradiation induced damage.
- **NEXT WORK**: Tentative electric field bulk graphite deuterium loading during electron irradition keeping the sample outside the electron beam to avoid damage.





Evolution during electron irradiation showing release corresponding to different masses. Mass 16 is the most prominent corresponding to oxygen indicating electron beam graphene reduction.



X ray difraction for rOxide graphene before (red) and after (blue) electron irradiation. The difraction peak appears slightly better defined after irradiation.