Mapping of Raman and Photoluminescence Spectra induced by Electron Irradiation in Graphene/Ni

C. Corbel[1], I. Shchedrina[1], O. Cavani[1], N.Ollier[1], T. Wade[1], J.-P. Renault[2], C.S. Cojacaru[3], M. Perdicakis[4], J. Ghilane[5], H.Randriamahazaka[5]
[1]LSI, [3]LPICM Ecole Polytechnique, Université Paris-Saclay, 91128, Palaiseau, France
[2]NIMBE, CEA Saclay, IRAMIS, 91191 Gif sur Ivette, France
[4]LCPME, Université de Lorraine, Villers-Les-Nancy, France
[5]ITODYS, Université Paris-Diderot, Paris, France

Ccatherine.corbel@polytechnique.fr

Several authors have reported that the Raman spectra for irradiated graphene reveal a strong dependence on the irradiation conditions [1, 4].

The present work is focused on the reactivity of graphene on nickel induced by electron irradiation in different conditions. The graphene property changes are investigated by various techniques. Raman and photoluminescence (PL) spectra at the micro scale are used here to illustrate the effect of the irradiation conditions.

The spectra show that the reactivity and homogeneity of graphene surface depends on the quantity and type of structural defects that are induced by electron irradiation. As illustrated in Fig.1, the mapping of the Raman and PL spectra strongly depends on the irradiation conditions.

The data are discussed and specific features are emphasized when compared to previous works performed using different irradiation conditions [1, 4].

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References

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Figure

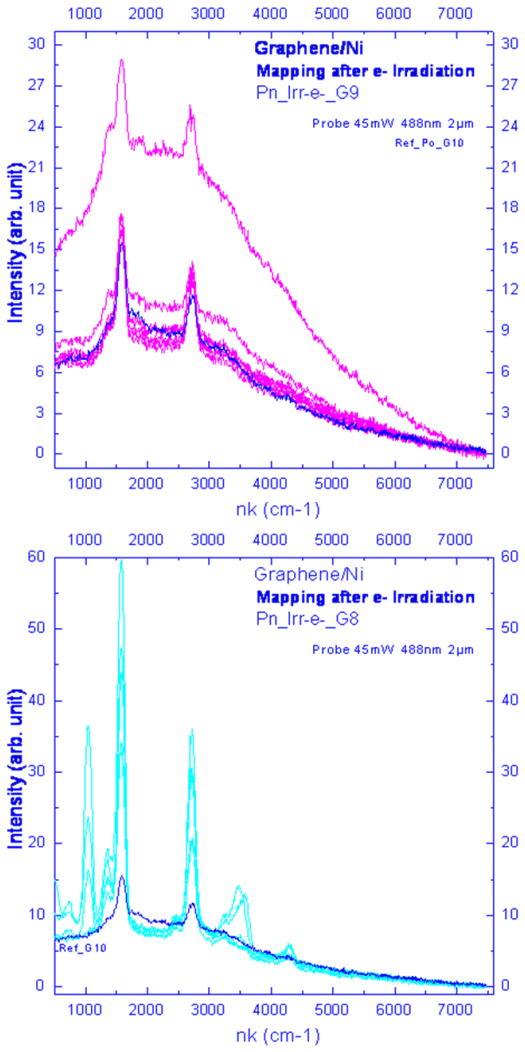

Figure 1:. Illustration of the mapping of the Raman and photoluminescence spectra for Graphene on Ni substrate after electron irradiation. The irradiation conditions differ for samples, G9(top) & G8(bottom).The wavelength, power and spot size of the exciting laser diode are 488nm, 45mW and 2µm, respectively.