

Service des Photons, Atomes et Molécules  
SÉMINAIRE

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Mardi 03 juillet 11h00

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Characterisation of optical centres in diamond by  
photoluminescence microscopy

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An overview will be given of the characterisation of point defects and simple clusters of point defects in diamond emphasising the reasons for its effectiveness. Use of a transmission electron microscope for the irradiation of diamond will be described with reasons for its effectiveness, especially when the results are investigated by microscopic PL at about 7K. Interstitial and vacancy-related centres have different properties that will be discussed. In order to identify the atomic nature of an unknown optical centre it is very helpful to have accurate information about the energies of local vibrational modes associated with the centre. The 3H centre of diamond will be used as an example. In this regard it may be necessary to have spectra of the centre generated by photoluminescence excitation spectroscopy as has recently been performed successfully on the 580nm centre in diamond.

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