

Infrared ellipsometry studies of oxide-based heterostructures

Tuesday, 24 July 2012 08:30 (25 minutes)

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Infrared ellipsometry studies of the electronic and structural properties of oxide-based heterostructures will be presented. As a first example, it is shown that this technique enables one to directly probe the mobility and the depth profile of the concentration of the confined electrons at the LaAlO₃/SrTiO₃ interface [1]. In addition, preliminary results on the electric field effect on the electronic and structural properties of the interfacial layer will be presented.

[1] A. Dubroka et al., Phys. Rev. Lett. 104, 156807 (2010).

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Session Classification: Transition Metal Oxides

Track Classification: Transition Metal Oxides