Séminaire *Guides d'ondes, milieux stratifiés et problèmes inverses*

Frumam, Marseille

Mercredi 13 juillet 2016

• 14h00-15h00 : AMÉLIE LITMAN (Aix-Marseille Université)

Combining software and hardware constraints in microwave imaging applications

Current trends in microwave tomography show that more and more effort are set in conjointly developing the hardware and the numerical parts of a microwave imaging device in order to provide accurate images. Indeed, one must choose appropriately the embedding medium characteristics, the topology and number of antennas, the calibration and post-processing steps, the forward and inverse algorithms. All these elements will be discussed keeping in mind the microwave imaging devices developed at the Institut Fresnel, in Marseille. In particular, some examples of the influence of a-priori information that one can incorporate into the inversion algorithm will be provided.

• 15h10-16h10 : SHUMIN LI (University of Hefei)

Carleman estimates for second-order hyperbolic systems in anisotropic cases and applications

Abstract : We consider Carleman-type estimate for second order hyperbolic systems in an anisotropic case and its applications. We first establish a Carleman-type estimate for hyperbolic systems in which the coefficient matrices satisfy suitable conditions. Then we apply this Carleman estimate to an inverse source problem for second-order hyperbolic systems in an anisotropic case and prove an estimate of the Hlder type. We further apply this Carleman estimate to an inverse coefficient problem for Maxwells equations in a uniaxially anisotropic medium, and prove a stability estimate of Lipschitz type, provided that unknown coefficients satisfy some a priori conditions.