1125-35-186 **Mourad Sini***, Altenbergersetrasse 69, Linz, Austria. *Groeger-Meyers's estimate and justification of the enclosure method for the Maxwell system.*

The enclosure method is a direct reconstruction method designed to recover the shape of an inclusion from its response to probing waves of the form of geometric optics. Compared to the well known reconstruction methods, linearity is not necessary. However, as it uses geometric optics solutions as probing signals, it provides only 'high frequency' features of the shapes as the support function, the distance function, etc. This method is proposed by M. Ikehata and then developed and refined by several other authors as G. Nakamura, J. N. Wang, G. Uhlmann and many others. To justify it, some a priori geometrical conditions are imposed to the shapes. In addition, its extension to the full Maxwell system was an open issue.

In this talk, we explain how we can remove these geometrical conditions and extend the method to the full Maxwell system. One of the basic tools we use is the so called Groeger-Meyers's estimate which means, in particular, that the solution operator is an isomorphism in the L^p-spaces with a range of the power p depending on the contrast of the materials defining the shape. We derive such an estimate for the full Maxwell system and use it to justify the enclosure method avoiding any geometrical condition. (Received August 10, 2016)