1084-52-244 **Eric L Grinberg*** (eric.grinberg@umb.edu), Department of Mathematics, UMass Boston, Boston, MA 02446. *Wave Front Sets in Convex Geometry.* Preliminary report.

We discuss the role and use of wave front sets, especially analytic ones, in the analysis of convex and star bodies. These tools from micro local analysis are of interest in unique-determination, rather than comparison, problems. Though we do not assume analyticity for the bodies in question, the uniqueness considerations lead to analytic differences and thus analytic continuation can be invoked. The goal is to determine a convex or star body from a 'thin' set of tomographic data. Typically it is assumed that some small initial data set is known a-priori and then uniqueness follows by analytic continuation using wavefront sets. The assumption of some small initial data does reduce generality, but is in the same spirit as the paradigms of other inverse problems, e.g., in cryptography. (Received September 03, 2012)