INNER METRIC VS. OUTER METRIC ON SINGULAR SPACES

In this talk, we will present the inner and outer metrics on singular spaces and their relations with the Jacobian of semialgebraic mappings. In particular, we will present the main differences between these two notions of metric. Moreover, we will discuss about Inverse Mapping Theorems in the case of Lipschitz mappings, even when the source and the target of the involved mappings are not smooth. This talk is an introduction and motivation to present an Inverse Mapping Theorem in the case of Lipschitz mappings with respect the inner metric and, moreover, the source and the target of the mappings involved are not necessary smooth. In this result, we will see (in next talks) that there are connections between arc spaces, motivic measure and Lipschitz geometry of real algebraic sets. In order to know, this result was proven by J.-B. Campesato, T. Fukui, K. Kurdyka and A. Parusinski (arXiv:1807.05160).