

Tatiana Tchemisova¹, Olga Kostyukova². *Phenomenon of Immobility in study of convex Optimization problems.*

¹ Portugal University of Aveiro

² Belarus Institute of Mathematics, National Academy of Sciences of Belarus

tt tatiana@ua.pt kostyukova@im.bas-net.by

We are concerned with convex problems of infinite Optimization, namely problems of convex Semi-Infinite Programming (SIP), linear problems of Semi-definite Programming (SDP), and linear Copositive Programming (LCP) problems that are closely related.

In this talk, we present our recent results on optimality for convex Semi-Infinite Programming and apply them to problems of linear SDP and LCP. Our approach is based on the notions of immobile indices and their immobility orders for problems of LSIP and LCP and of a subspace of immobile indices for problems of linear SDP. We show how these concepts can be used to obtain new CQ-free optimality conditions for the considered classes of Optimization problems.