

Development of High Temperature Induction Ovens for ECR Ion Sources in Legnaro, M.F. MOISIO, M. CAVENAGO, INFN-LNL - A miniature induction oven is being developed in our laboratories, as an alternative to resistive oven conventionally used for feeding metal atoms into ion sources. Since induction coil is physically separated from the sample to be melted, smaller contamination and longer lifetime are expected, even with corrosive sample and high temperature. Major limitation to efficiency is due to the dispersed flux. After extensive numerical simulation and theory the induction oven design has been optimized for efficiency; removal of intermediate heat screen (envisioned in the previous design concept) was found convenient in the overall. A prototype was built and assembled and the first measurements have been performed. The first experimental results are shown.