

Design and Automation of a new versatile UHV-Multilayer evaporation plant for very high vacuum requirements

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For the fabrication of Ultra Cold Neutron detectors a new deposition plant was purchased and assembled in 2005. To avoid Oxygen contamination within the detectors this plant has been equipped with a very power full vacuum system that renders a pressure within the range of 10^{-11} mbar possible. Since that plant was funded by several chairs which work in different fields of research it was recently decided to equip the system with a more versatile deposition setup and complement the already existing 7-hearth electron gun with 4 sputter guns and an ion gun. In addition, the entire vacuum system has been automated to account for the risk of possible handling errors that accompanies the operation of the deposition plant by several users from different chairs. Also, to facilitate the production of multi-layer targets and detectors like the ones mentioned above it is planned to automate the deposition system as well.