Joint DESY and University of Hamburg Accelerator Physics Seminar

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ZOOM video seminar (needs version 5.8+)

Robotic Solutions for Remote Maintenance in Particle Accelerators

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Abstract

Intelligent robotic systems are becoming essential for space applications, industries, nuclear plants and for harsh environments in general, such as the European Organization for Nuclear Research (CERN) particles accelerator complex and experiments. In order to increase safety and machine availability, robots can perform repetitive, unplanned and dangerous tasks, which humans either prefer to avoid or are unable to carry out due to hazards, size constraints, or the extreme environments in which they take place. In this presentation, the current status of the robotic activities performed at CERN by the BE-CEM group is presented. Several robotics solutions have been applied in the past years at CERN, as well as custom made robotic devices. New ideas and solution could come in the close future to increase safety of CERN personnel decreasing radiation dose taken. Current and future research and development in robotics done at CERN are described, as well as the results from the commissioning of various novel robotic controls.

W.Hillert, (Univ. HH), I.Agapov (MPY) and M.Vogt (MFL).