

N3408. APPLICATION OF THE TELBOT ROBOT IN HAZARDOUS ENVIRONMENTS

Abstract

In recent years, the acceptable levels of worker exposure to environmental hazardous such as radiation, toxic fumes and asbestos has steadily decreased. As a result, the use of both tele-operated and computer-controlled robots has increased dramatically. A new tele robot system, trade named Telbot, has been developed by Hans Walischmiller GmbH and has been used for nuclear steam generator maintenance in Canada and for decommissioning glove boxes in Japan. The novel mechanical design of the Telbot robot enables that all the joints can be rotated over 360 degrees continuously. Joints and arms with different sizes are designed for meeting the requirements of different payloads. The manipulator can be easily protected from the dirty environment, and some of the parts can be quickly changed when a defect happens. The control system is designed as an open system, the hardware is the VME bus system and the software is based on the VxWorks real-time operating system. A 3-D simulation system is connected to the control system for real-time visualization and off-line simulation.

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