## 6.1 Human-Machine Cooperative Telerobotics

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## Abstract

In this paper, a methodology to integrate sensor and model based computer assistance into a human controlled teleoperator system called Human Machine Cooperative Telerobotics (HMCTR) is presented. In this strategy, the human operator is retained at all phases of the operation, and is assisted, but never superseded, with sensor and model information. This strategy is presented along with the task plan file that connects the system to a task scene modeling software. A controller using this strategy in its three control modes: pure teleoperation mode, autonomous mode, and teleoperation with assistance mode, was built for use with a Titan II manipulator during remote operations at radioactive sites. A mockup experiment was done that demonstrates that execution time is shortened using HMCTR over standard teleoperation procedures.