

Title: Asymmetric Properties of Multilateral Teleoperation Systems

Abstract: Multilateral Control is one of the major research areas in teleoperation since a few years. The design of novel interaction capabilities between n number of agents – i.e. human with a master device, slave robots in their environment or artificial intelligent agents – creates new challenges. Especially stability analysis tools that are capable to deal with bilateral systems are not easily applicable to multilateral systems e.g. because of their asymmetries concerning control allocations and novel interconnections. This contribution points out the challenges related to those asymmetries and proposes a generic control approach for multilateral teleoperation systems.