

Gradient-like observers for invariant systems

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Invariant control systems on a Lie group have a number of practical applications ranging from control problems in robotics to the control of quantum systems. In the recent years there has been an increased interest in observer design for invariant systems on Lie groups, mainly driven by attitude and pose estimation problems for unmanned aerial, ground and submersible vehicles. In this talk I will present some recent results regarding the construction of gradient-like state observers for invariant systems on a Lie group. The resulting observers converge almost globally and have a local exponential convergence rate.