

Lagrangian mechanics for an ASV-UAV system based on cluster-space formulation

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We provide a Lagrangian function in cluster space state variables which describes the dynamics of a robot cluster integrated by an unmanned aerial vehicle (UAV) and an unmanned surface vehicle (ASV). As well as we write the equations of motion in cluster space variables. We also we study the symmetries of the Lagrangian function in order to apply the Routh's reduction process.

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