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Guidance and Control of a Torpedo Autonomous Underwater Vehicle

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Abstract : Considering numerous applications of Autonomous Underwater Vehicles in various industries, there has been plenty of researches and studies on the motion control of such vehicles. One of the useful aspects for studying is the guidance of these vehicles. In this paper, while presenting motion equations with six degrees of freedom for Autonomous Underwater Vehicles, Proportional Navigation Guidance Law and the first order sliding mode control for TAIPAN AUV was used to address its guidance for the purpose of collision with a moving target.

Keywords : Autonomous Underwater Vehicle (AUV), degree of freedom (DOF), hydrodynamic, line of sight(LOS), proportional navigation guidance(PNG), sliding mode control(SMC)
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