APPLICATION OF STATE FEEDBACK LINEARIZATION METHOD FOR CONTROL SYSTEM OF SHIP MOTION

Name : Dwi Ariyani Khalimah  
NRP : 1209 100 044  
Department : Mathematics  
Supervisor : DR. Erna Apriliani, M.Si.

Abstract

Ship is equipped with guidance and control system should be able to navigate well in the test mission in order to maintain the desired trajectory. Ship has 6 degrees of freedom (DOF). In this final project using 3 DOF namely surge, sway and yaw, which is divided into two system, there are surge speed control used the state feedback linearization method and control of the ship heading angle by using a PID Controller were added by using the reference model of the autopilot and the feedforward term that ship can be maneuvered with course-changing and course-keeping. After analysis of control heading angle and speed control, and then performed simulations using Simulink Matlab software.

Keywords: ship control, state feedback linearization, PID Controller