

# Pengujian pengendali prediktif pada model anti-lock breaking system berbasis processor-in-the-loop simulation = Predictive control in anti lock breaking system model with processor in the loop simulationIsmi

Ismi Rosyiana Fitri, examiner

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## Abstrak

Kenyamanan dan keamanan berkendara dapat dipengaruhi oleh kemajuan teknologi kendali. Anti-Lock Breaking System (ABS) merupakan salah satu sistem keamanan yang menjaga kestabilan slip roda untuk menghindari terjadinya kecelakaan saat pengereman yang darurat. Dalam merancang sistem ABS yang baik, simulasi Hardware in the Loop (HILS) sangat diperlukan untuk mencegah resiko pengujian. Akan tetapi, untuk memastikan algoritma pengendalian, proses Processor in the Loop Simulation (PILS) perlu dilakukan terlebih dahulu. Penelitian ini akan berfokus pada pengujian pengendali prediktif pada sistem ABS menggunakan metode PILS dan komunikasi CAN.

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Vehicle comfortability and driving security could be effected by the upturn of control system technology. Anti Lock Breaking System (ABS) is one of security system whose purpose is to keep wheel slip stable, concerning any accident from a sudden breaking. In furtherance, Hardware in The Loop Simulation (HILS) would give the best result and refrain any risk on ABS design process. However, to ensure the control algorithm, Processor in The Loop Simulation (PILS) is needed to conduct first. The research was focused on implementation of predictive control in ABS with PILS approach using CAN communication.