HUMAN-MACHINE ADAPTIVE ECO DRIVING CONTROLLER AND ITS MATHEMATICAL METHOD.

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INTRODUCTION:

A systematic design procedure for fuzzy controllers with learning capability is introduced. Relative eco driving feedback to driver are generated by inference engine and a clear adaptive command is suggested by the assistant to driver.

AIM

To reduce CO_2 emissions of car is needed establish a fruitful communication between car and driver. An Eco-Driving assistant learn by live driving data. At the same time Driver learn by the assistant how drive the car. Both systems, human and machine cooperate to achieve the goal to reduce emissions.

RESULTS

This works shows that an adaptive fuzzy controller for an unknown nonlinear systems like this one is able to reduce emissions of CO_2 controlling the driving style without requiring the system model. Algorithm uses only live information about it.

Conclusion:

According to the results of this study, we found that for petrol and diesel engines the emissions could be reduced by 50% despite the nominal co2 emission declared by the manufacturer