"COMPUTATIONAL ASSESSMENT OF SPEED CONTROL STRATEGY DURING MODE CHANGE OF PARALLEL HYBRID ELECTRIC VEHICLE"

M. Tech Dissertation

Submitted in

Partial Fulfillment of the Requirements

for the Degree of

MASTERS OF TECHNOLOGY

in

Internal Combustion and Automobile Engineering

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April 2020

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ABSTRACT

With continuous development of Morden culture and technology, environmental issues like global warning and irreversible climate change leads to think about worlds pollution. Countries around the world are taking such steps to control drastically change in climate because of harmful pollutants & carbon dioxide emissions Amongst the most notable producers of these pollutants are automobiles. situation can be taken under control by reducing unhealthy emissions. Worlds dependency on the standard IC engine cars can be overcome by introducing hybrid cars. For low GHG emissions, global warming gas emissions and meet power demand as conventional vehicles, HEVs are best solution. HEV splits power demand between ICE & electric Motor which has electric power source.

HEV structure contains internal combustion engine, engine clutch, electric motor, inverter/converter, battery, gearbox, differential and vehicle dynamics. HEV is somehow costlier because of this powertrain structure and additional hybrid control module. because of high cost customer expects more comfortable driving nature but during mode changing and shifting such jerks are observed that affects vehicle drivability.

Work contains simple control strategy of clutch for mode changing situation to reduce jerk produced by clutch engagement because of slip between clutch driving disk and driven disk of HEV powertrain , which are used to upgrade drivability of vehicle and to develop Matlab/Simulink based simulation model of parallel hybrid electric vehicle.