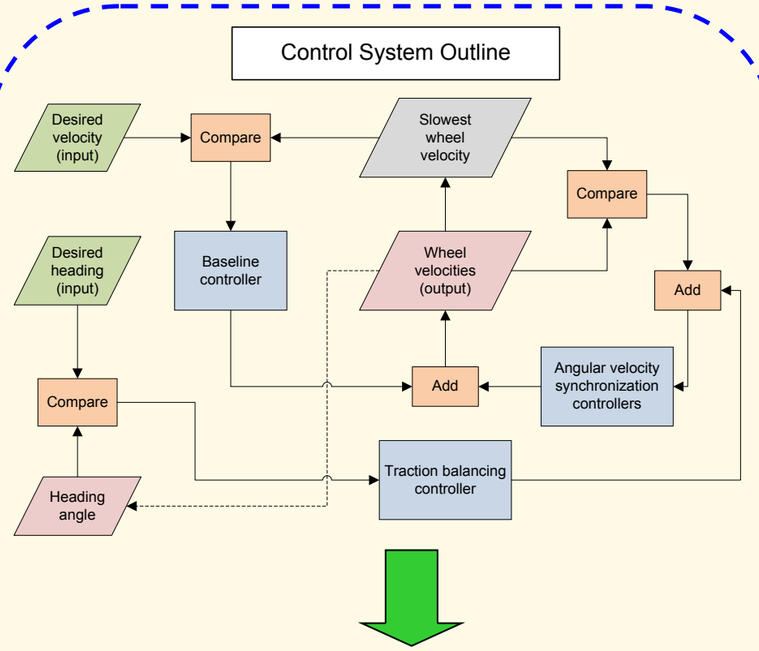
Design and Testing of a Torque Vectoring Controlled Vehicle

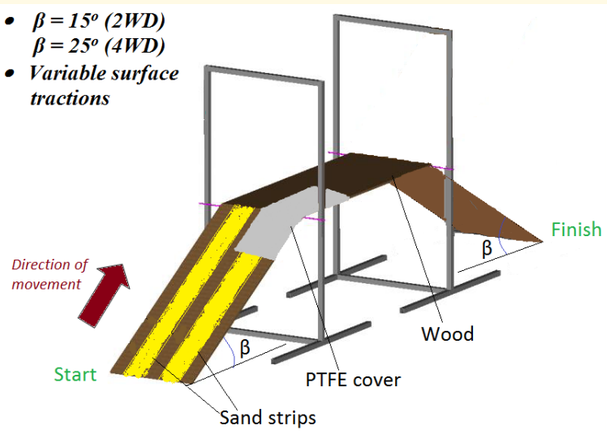


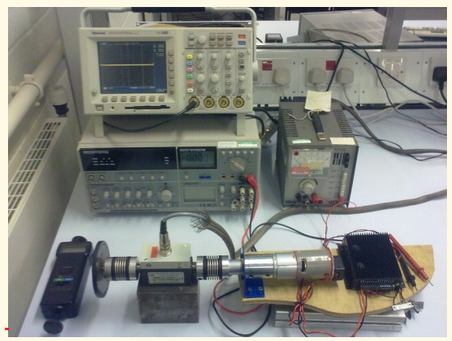
Project Scope: To develop theoretical knowledge as well as first-hand experience of applying Torque Vectoring Control onto electrical vehicles.

Background: Unlike conventional AWD that controls wheel spin by braking a spinning wheel , torque vectoring is achieved by using novel differentials that distribute power to the wheel with higher friction potential. As a result, power loss can be minimized while the vehicle is negotiating an unexpected traction loss.

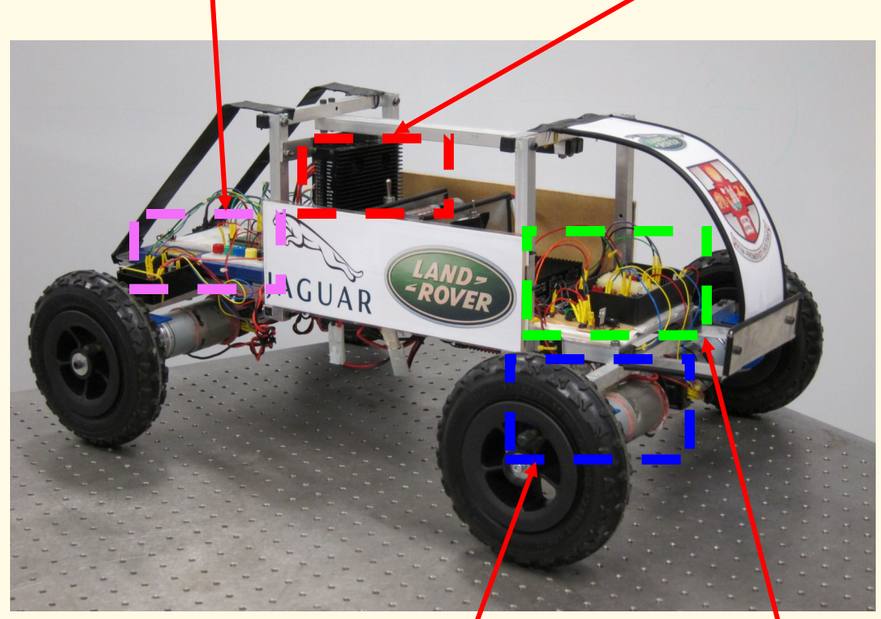
Test Methodology

- *β = 15º (2WD)*
  β = 25º (4WD)
- *Variable surface tractions*

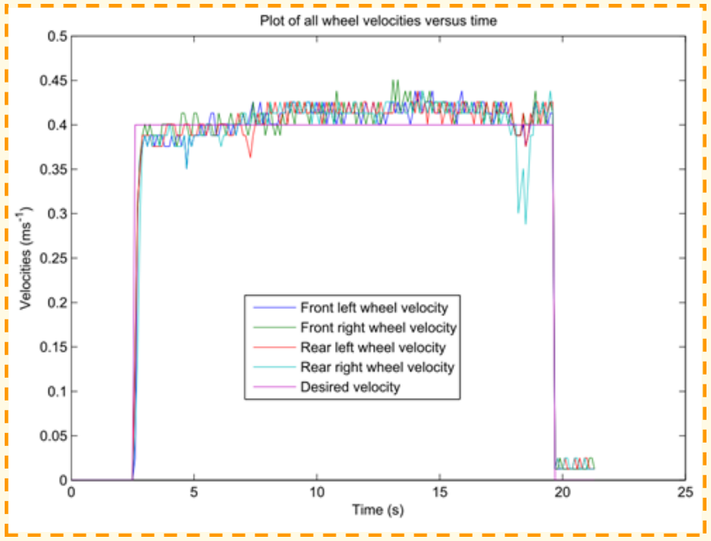




Motor Characteristics Experiment



Final Test Result



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