

# BMA4723 VEHICLE DYNAMICS

## Assignment 4

by

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# Assignment Description

- Aims
  - To analyse the steady-state cornering of the vehicle by using Matlab Simulink.
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- Expected Outcomes
  - Students are able to develop the vehicle model in Matlab Simulink.
  - Students are able to analyse the steady-state cornering of the vehicle by using Matlab Simulink.
- References
  - M.Abe, Vehicle Handling Dynamics Theory and Application, Second Edition, Published by Elsevier Ltd, 2015
  - Thomas D.Gillespie, Fundamental of Vehicle Dynamics, Published by Society of Automotive Engineers

# Assignment 5

By using software Matlab Simulink, plot the graph relation of:

- 1)  $\rho - V$
- 2)  $r - V$
- 3)  $\beta - V$ .

The parameters of the vehicle as below:

$$m = 1200 \text{ kg}$$

$$l_f = 1.0 \text{ m}$$

$$l_r = 1.3 \text{ m}$$

$$K_f = 53 \text{ kN/rad}$$

$$K_r = 58 \text{ kN/rad}$$

$$\delta = 0.04 \text{ rad}$$

# Vehicle Dynamics

## Chapter 4

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