

Exercises

Exercise 1.1. Construction of effective axle characteristics at load transfer	14
Exercise 1.2. Four-wheel steer, at the condition that the vehicle slip angle vanishes	35
Exercise 1.3. Construction of the complete handling diagram from pairs of axle characteristics	41
Exercise 1.4. Stability of a trailer	57
Exercise 2.1. Slip and rolling speed of a wheel steered about a vertical axis	71
Exercise 2.2. Slip and rolling speed of a wheel steered about an inclined axis (motorcycle)	71
Exercise 2.3. Partial differential equations with longitudinal slip included	81
Exercise 3.1. Characteristics of the brush model	112
Exercise 4.1. Assessment of off-nominal tire side force characteristics and combined slip characteristics with F_x as input quantity	207
Exercise 4.2. Assessment of force and moment characteristics at pure and combined slip using the <i>Magic Formula</i> and the <i>Similarity Method</i> with κ as input	208
Exercise 5.1. String model at steady turn slip	240
Exercise 6.1. Influence of the tyre inertia on the stability boundary	295
Exercise 6.2. Zero energy circle applied to the simple trailing wheel system	317
Exercise 7.1. Wheel subjected to camber, lateral and vertical axle oscillations	353
Exercise 8.1. Response to tyre stiffness variations	378
Exercise 8.2. Self-excited wheel hop	379

We may also refer to the online information, cf. App. 2, containing MATLAB applications.