



LD Benchmark

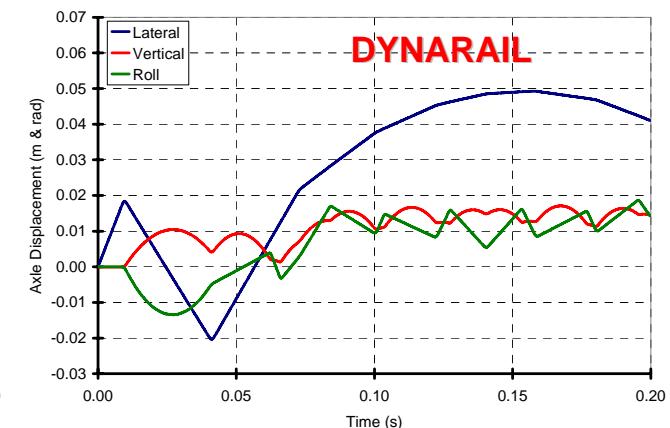
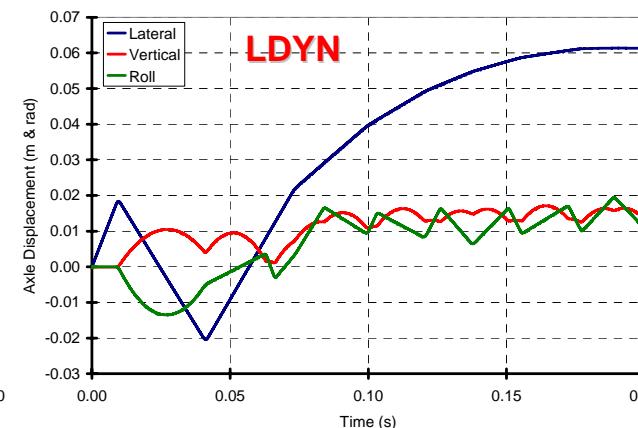
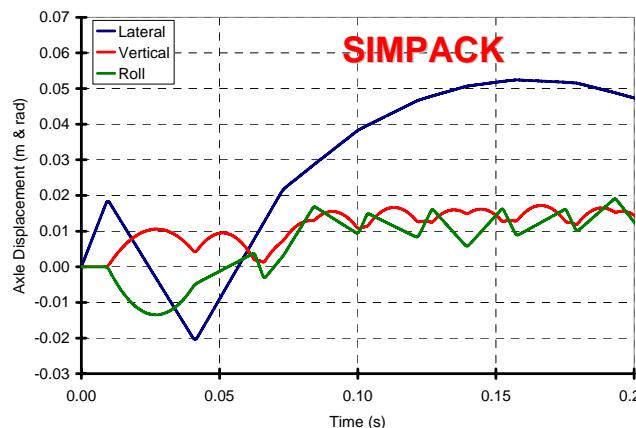
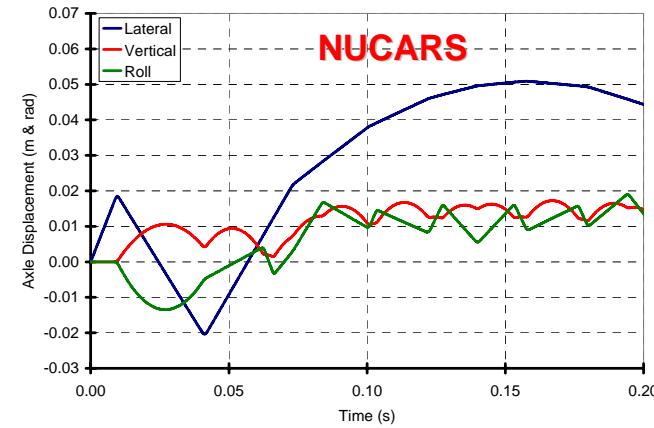
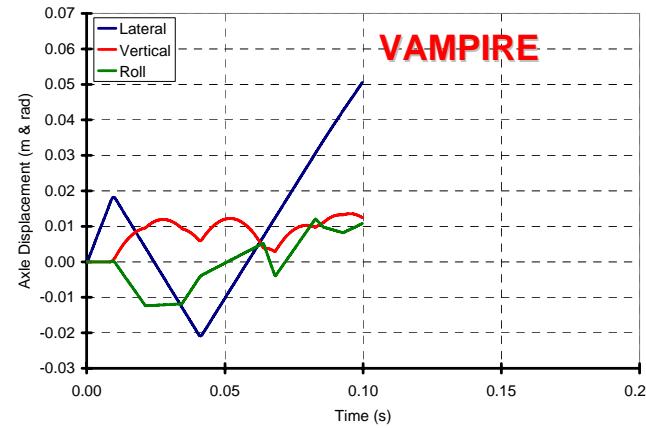
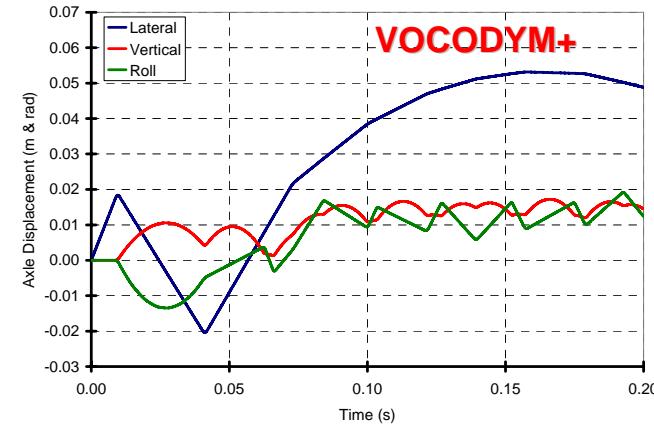
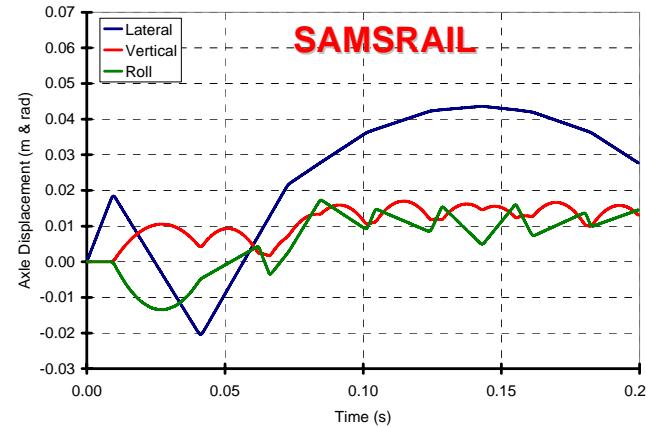
Case 1, Exercise 4
Simplified Wheel and Rail Profile

1 m/s Forward Velocity

2 m/s Initial Lateral Velocity

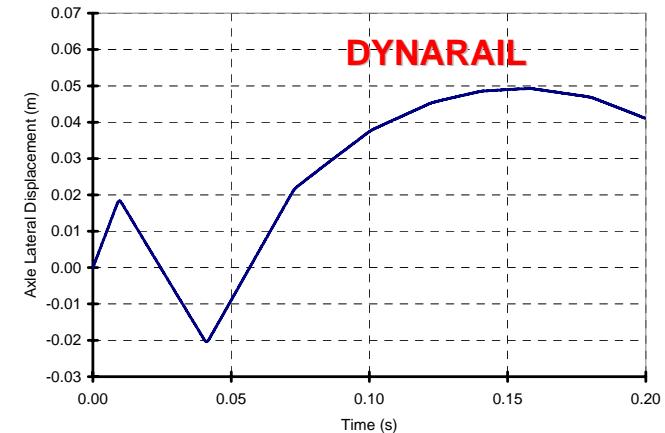
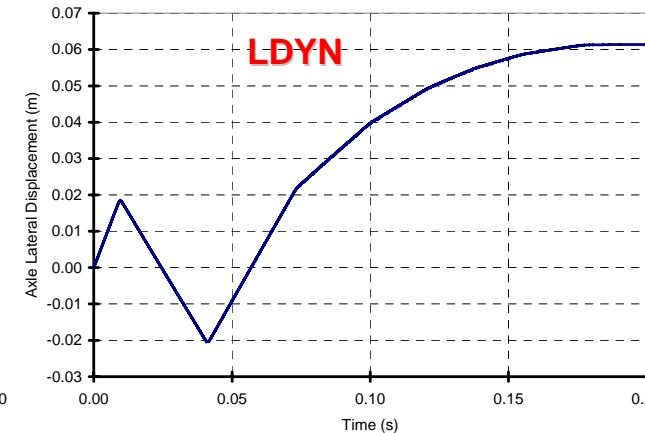
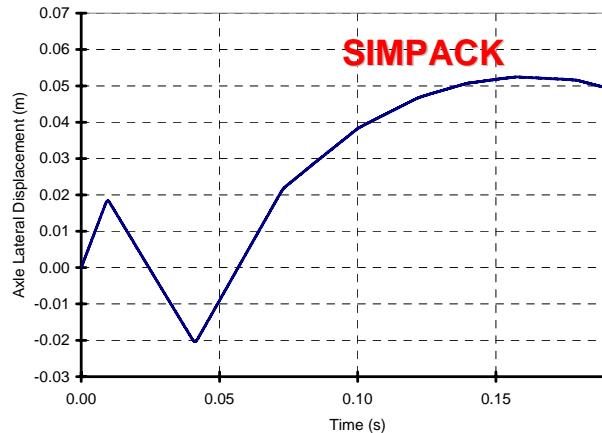
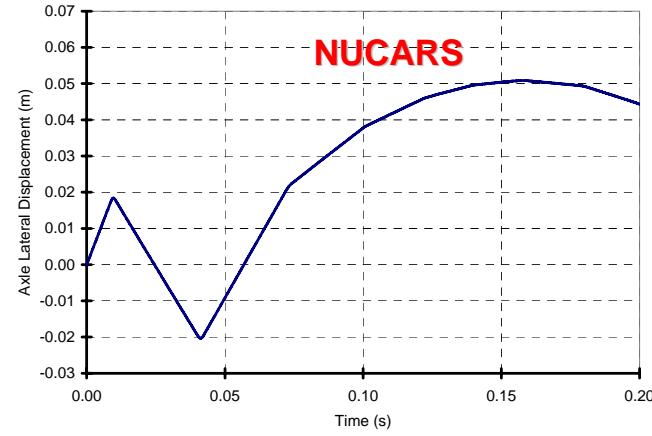
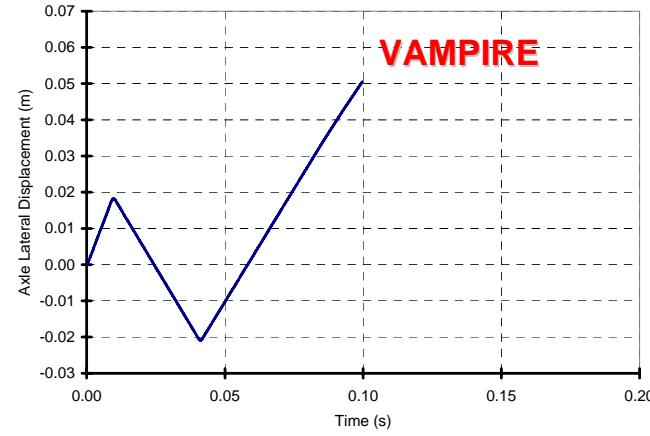
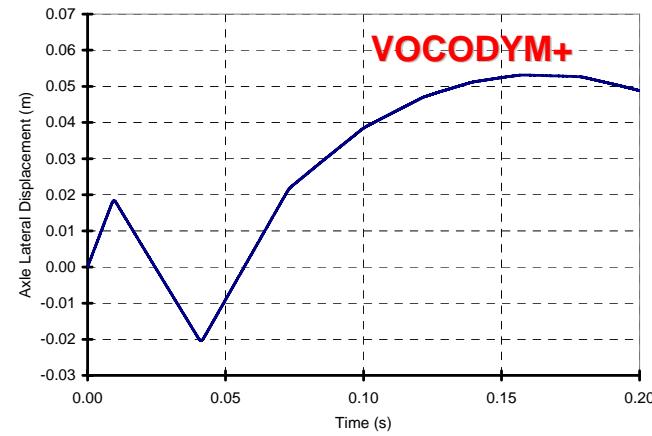
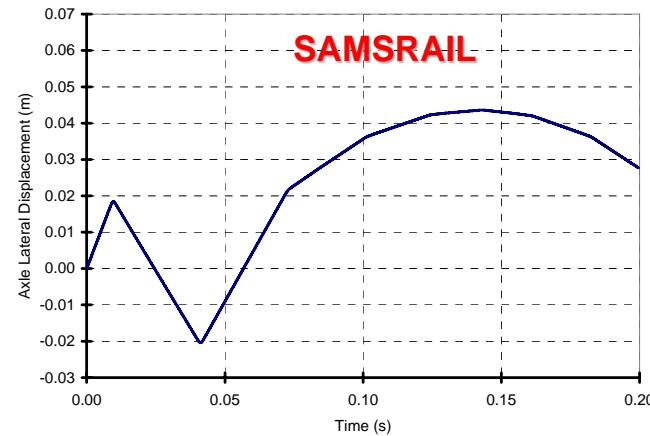


Wheelset Displacement



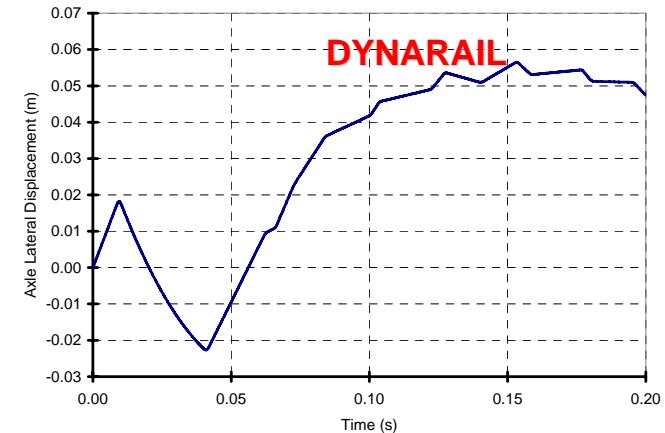
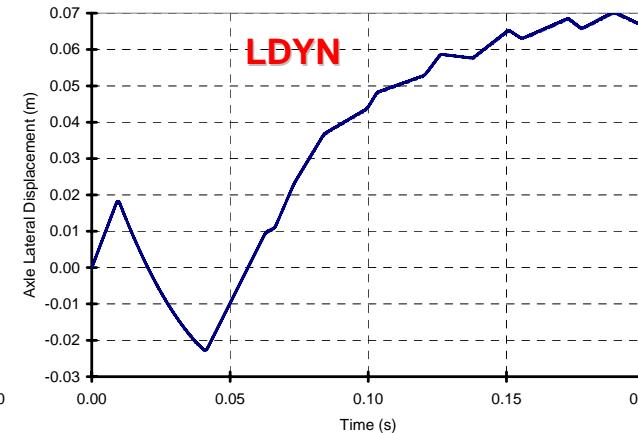
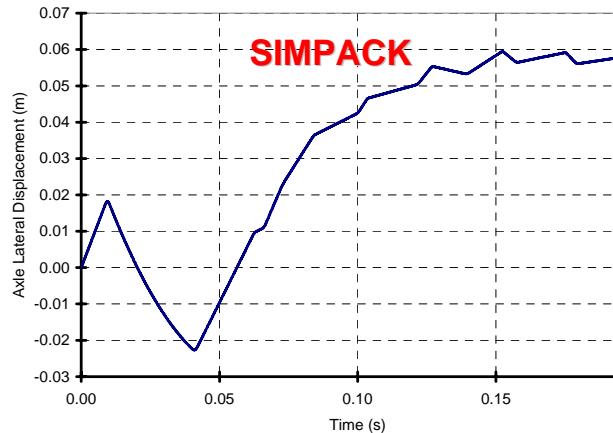
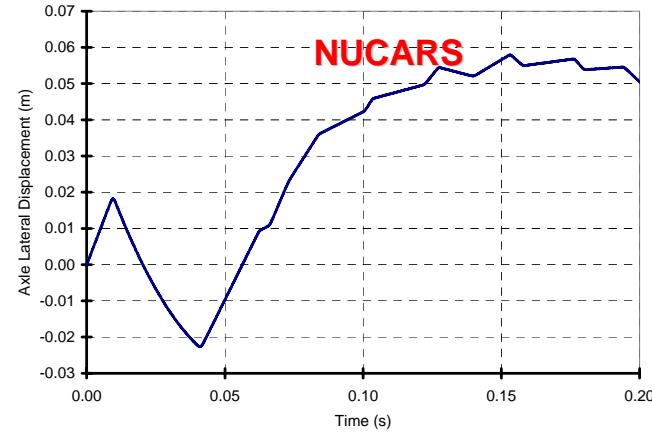
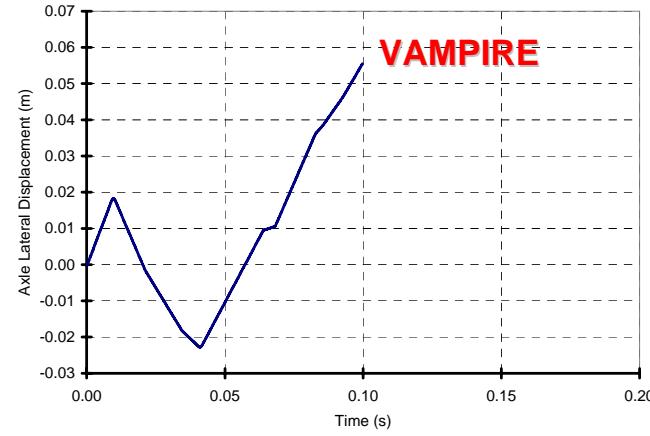
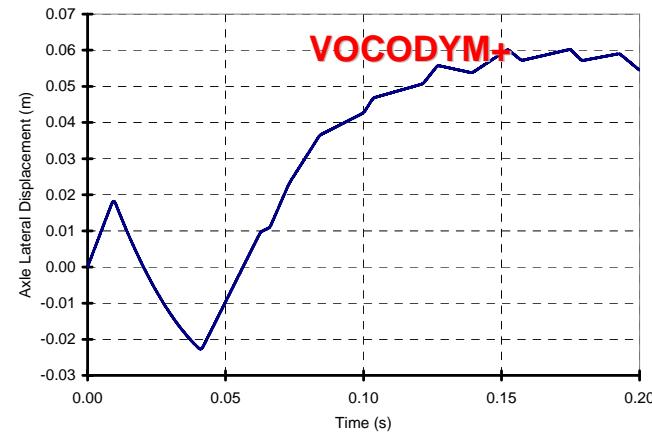
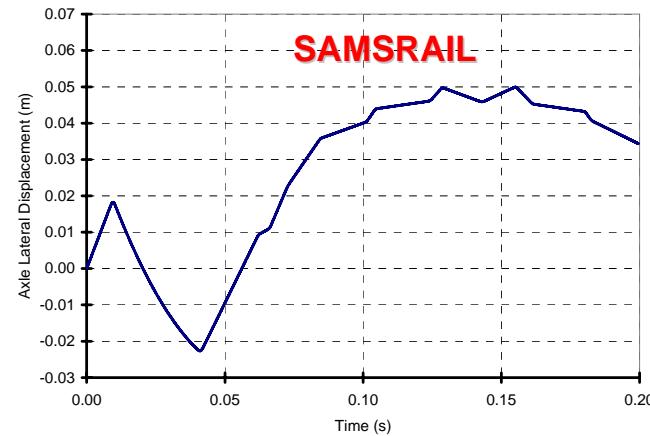


Wheelset Lateral Displacement at Axle CG



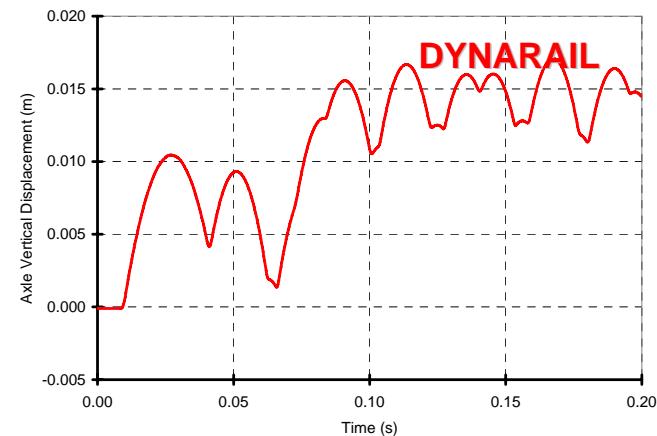
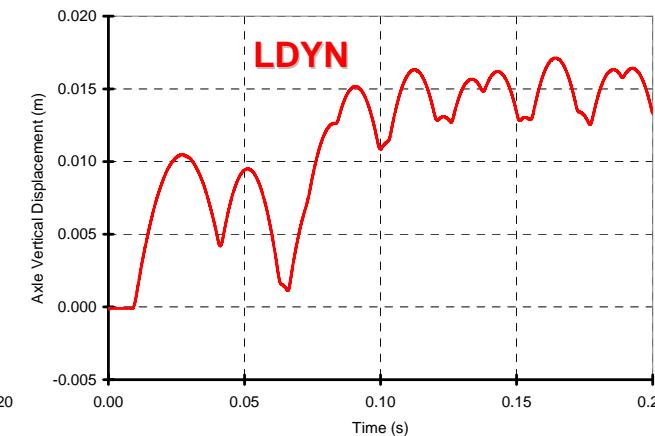
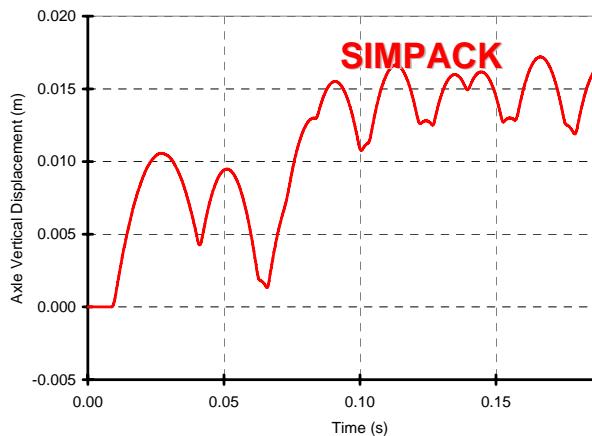
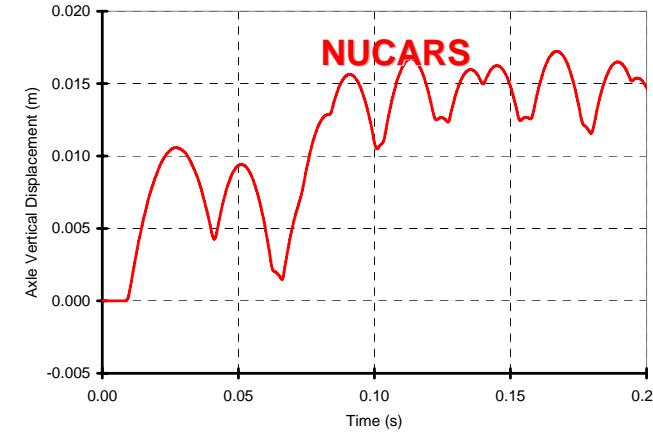
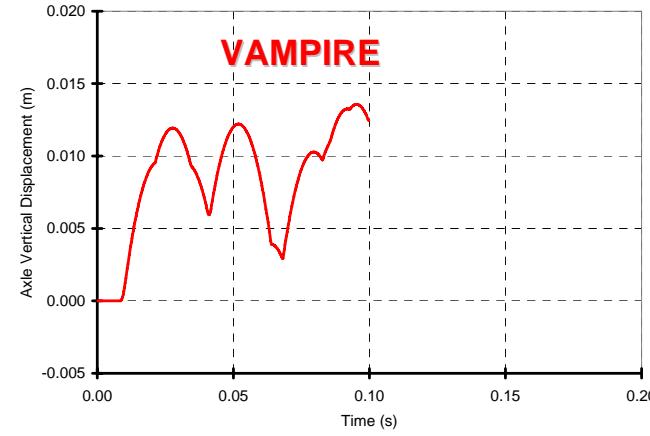
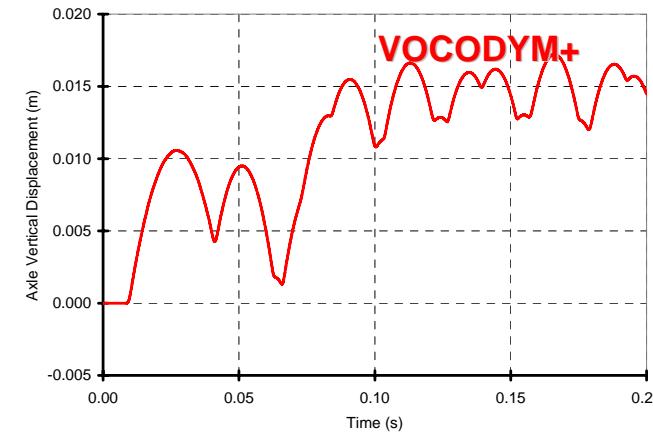
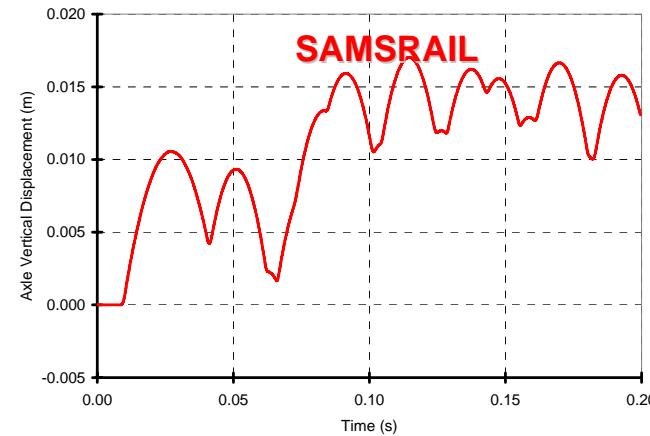


Wheelset Lateral Displacement at Rail Height



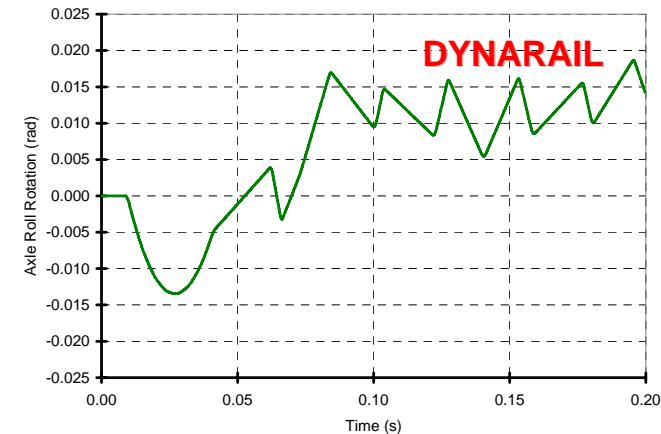
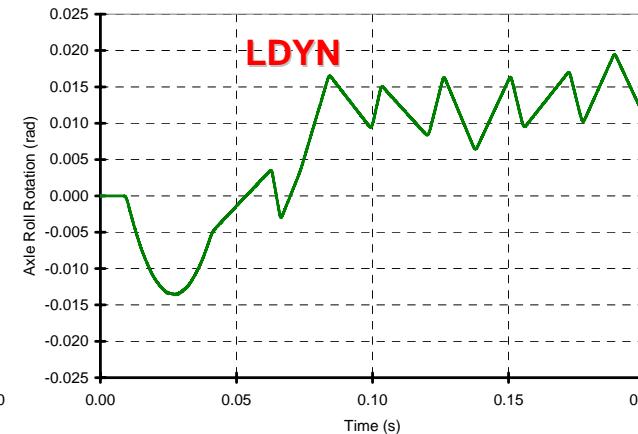
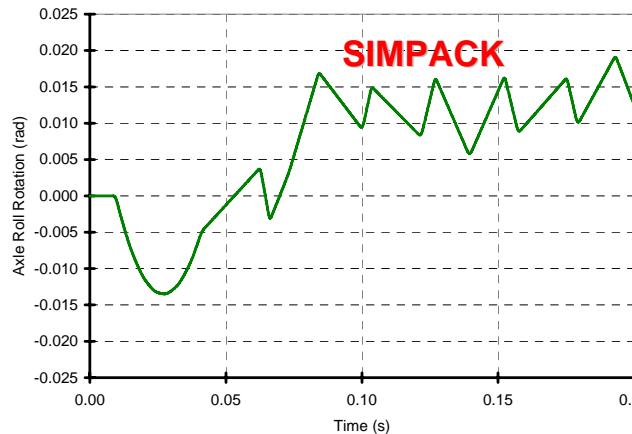
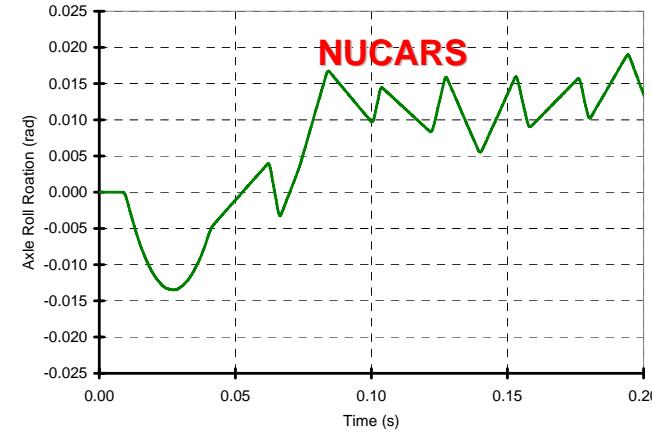
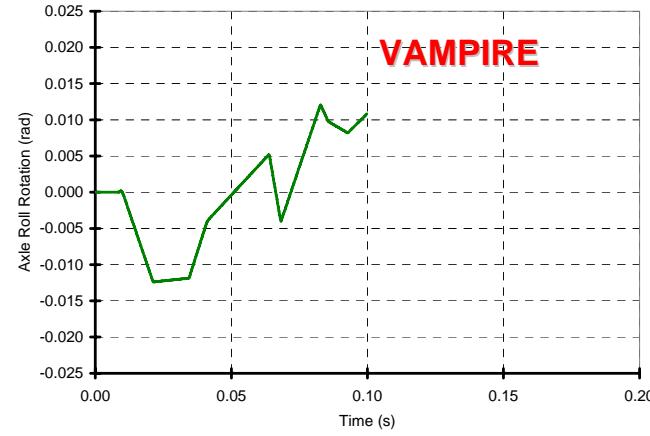
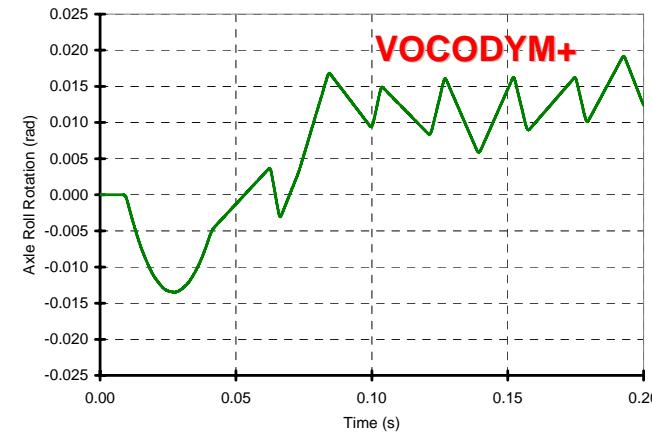
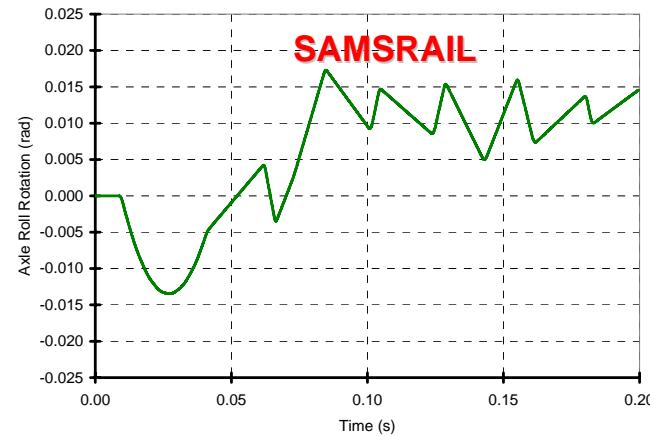


Wheelset Vertical Displacement

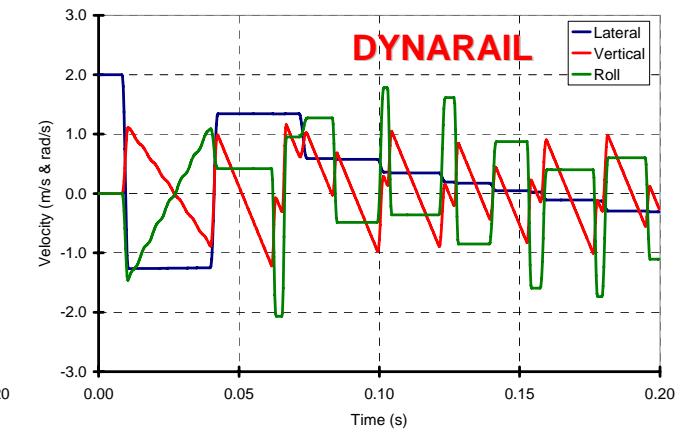
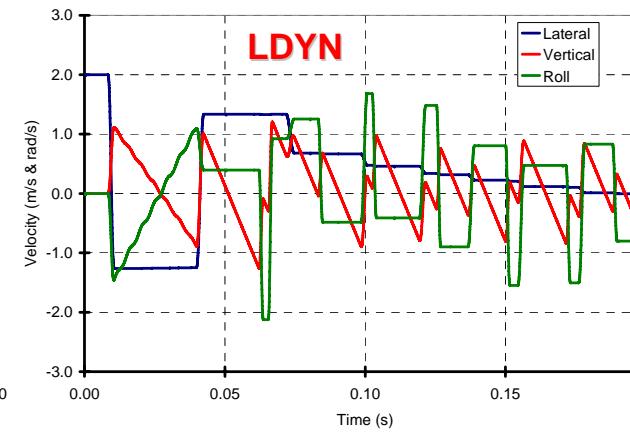
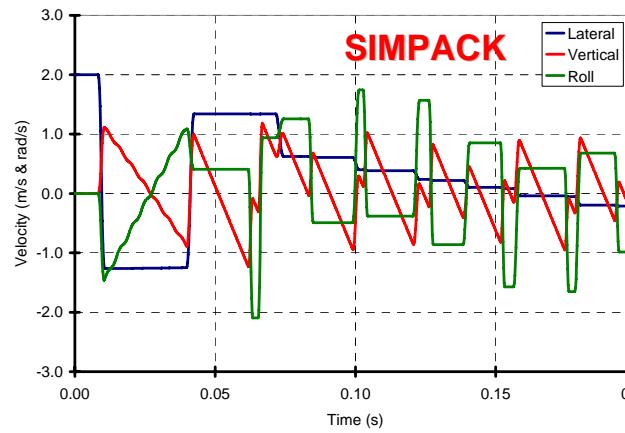
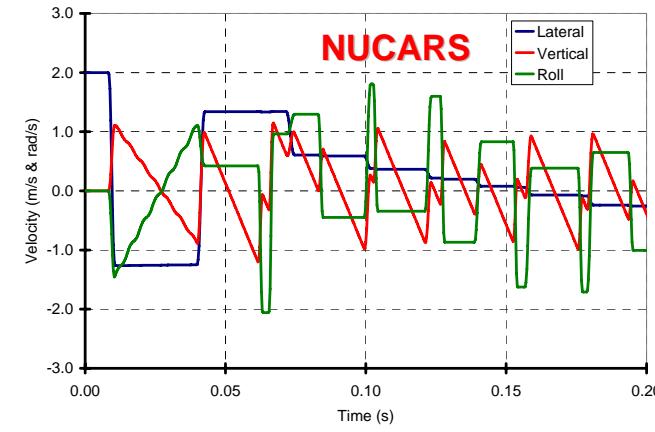
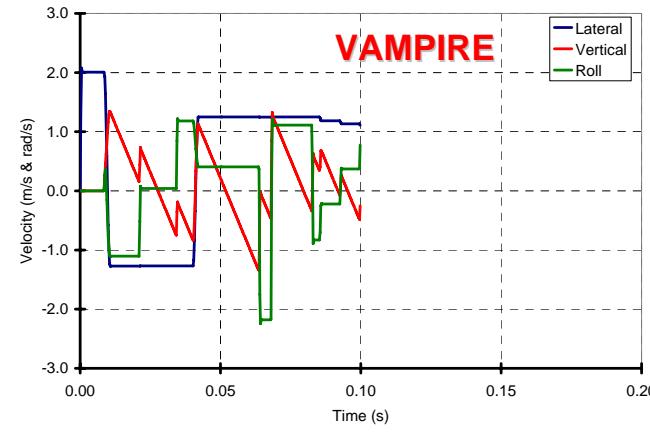
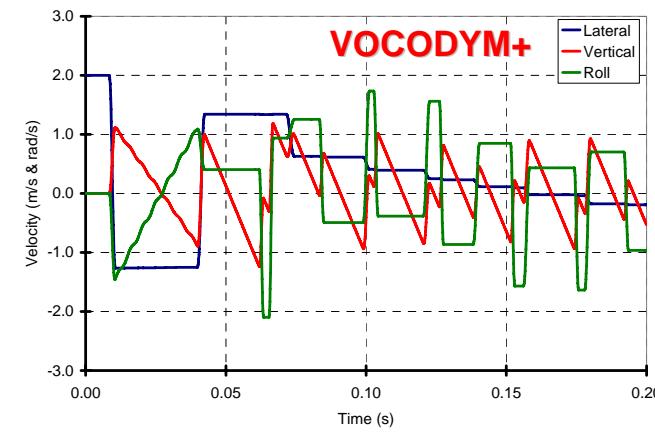
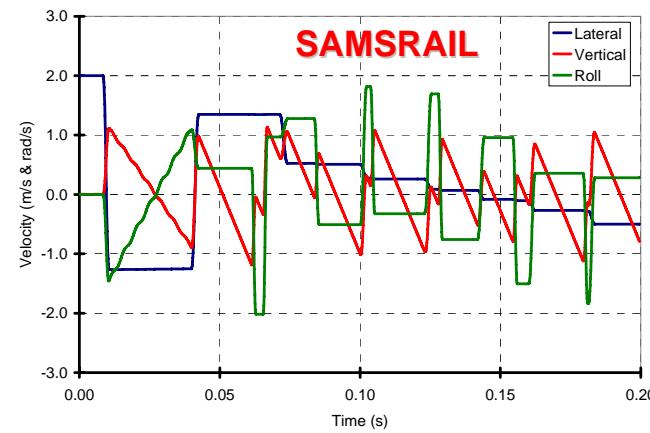




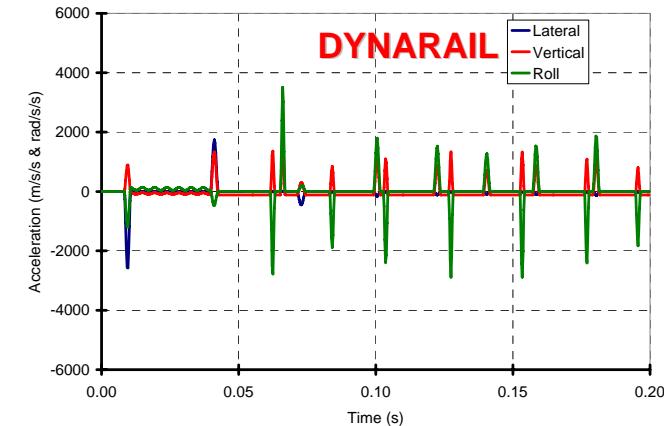
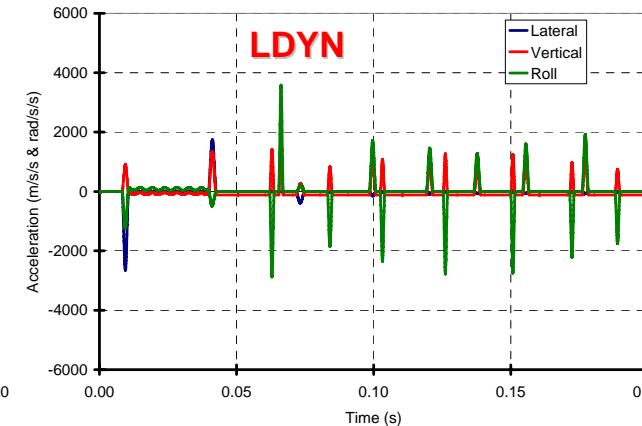
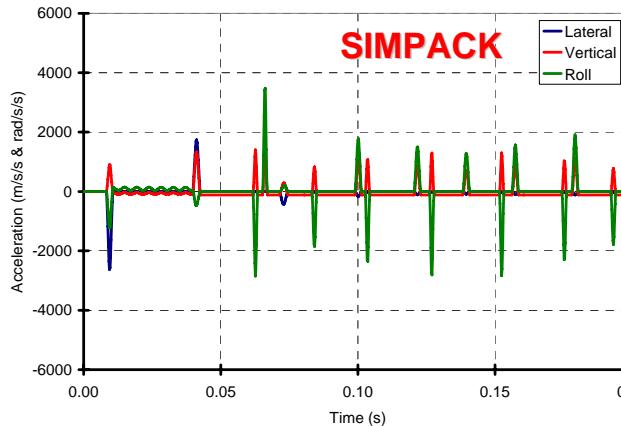
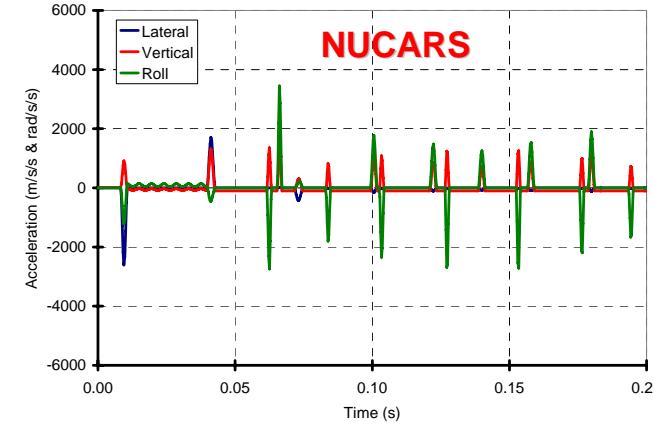
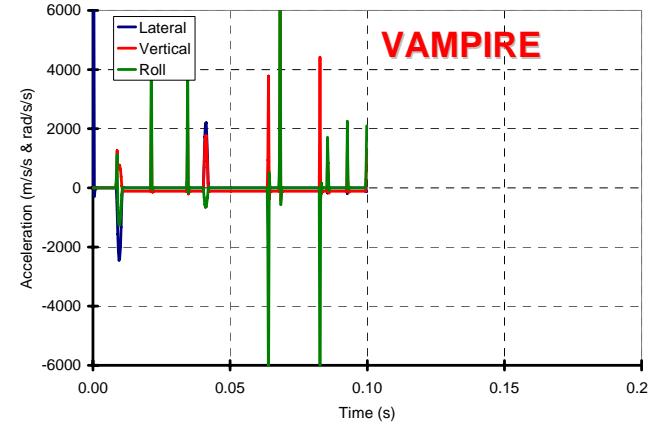
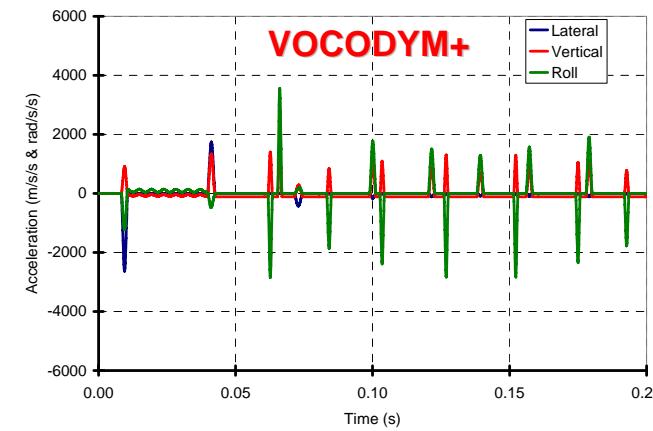
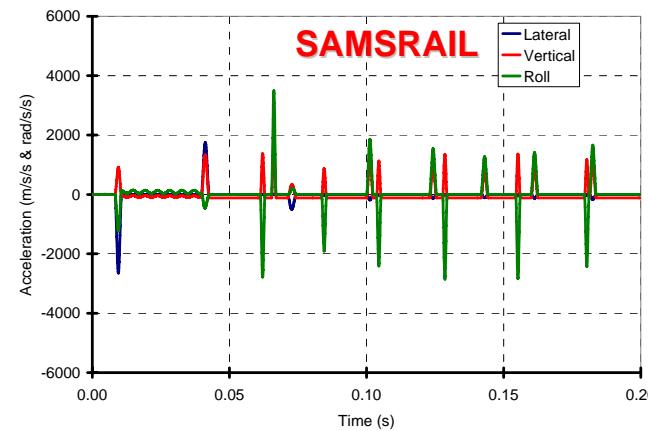
Wheelset Roll Rotation



Wheelset Velocity

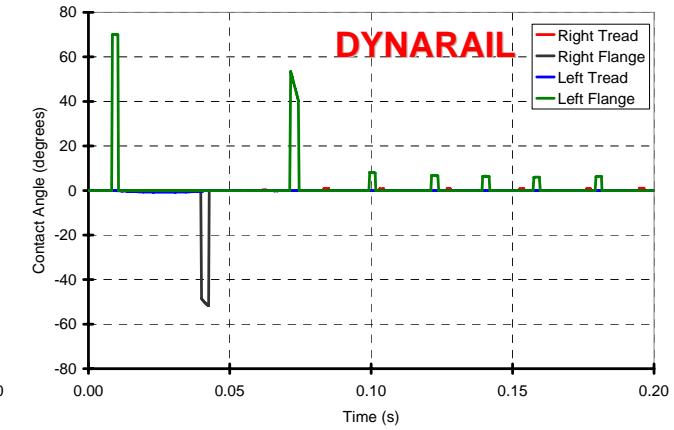
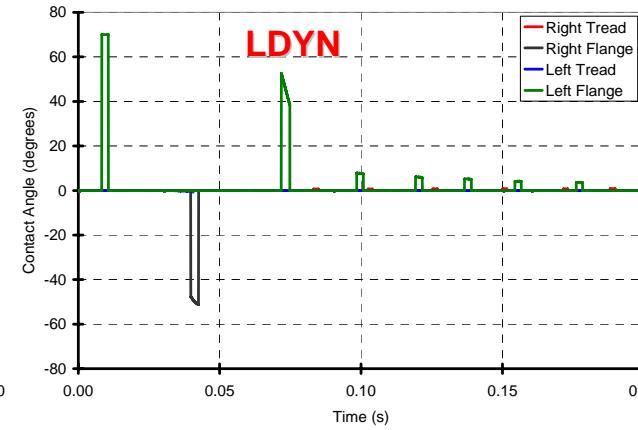
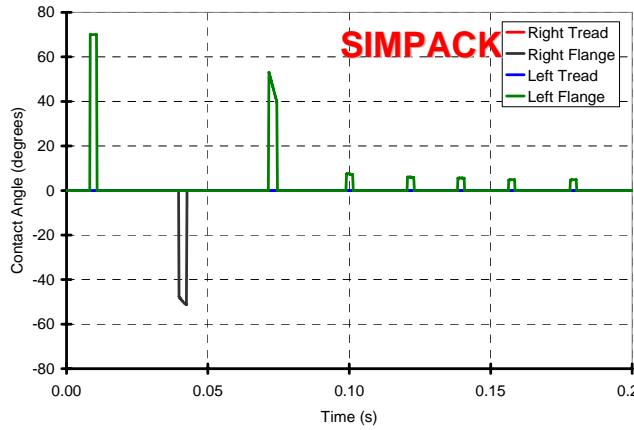
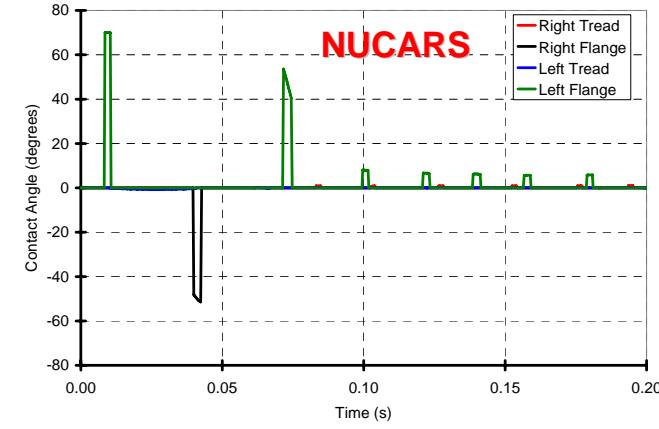
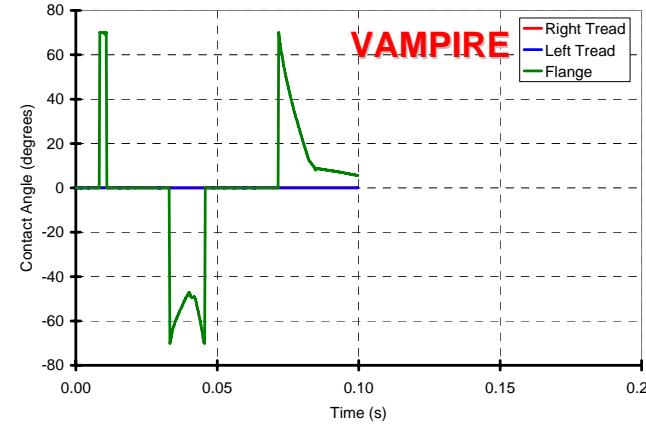
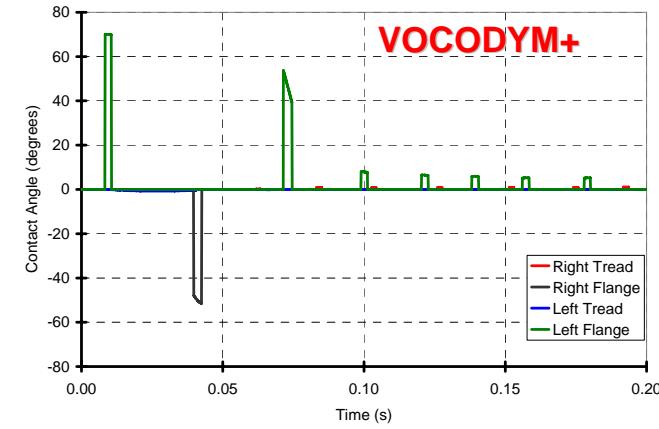
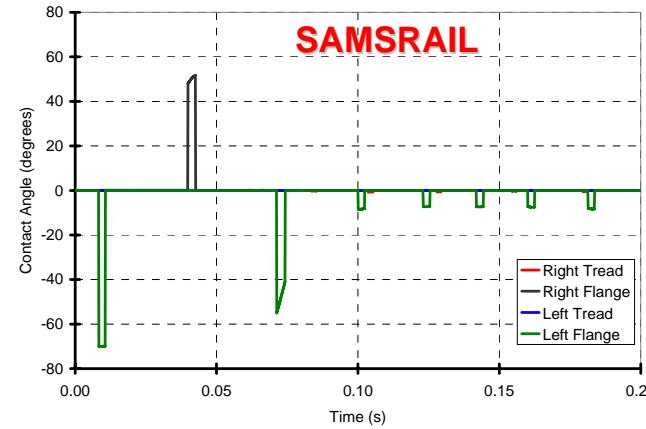


Wheelset Acceleration

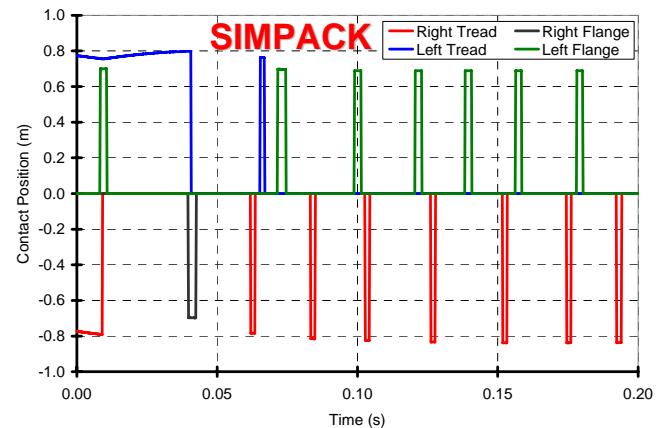
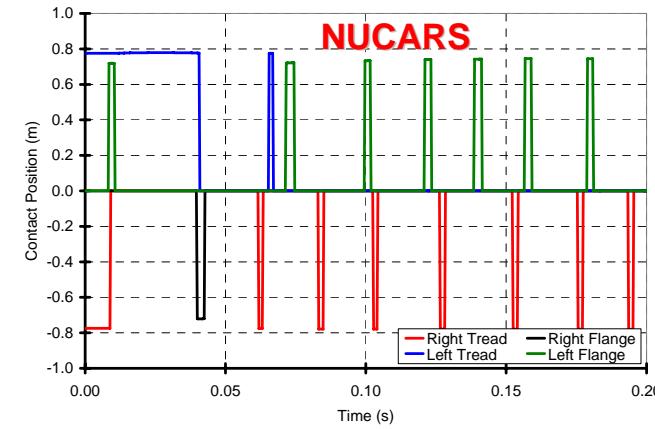
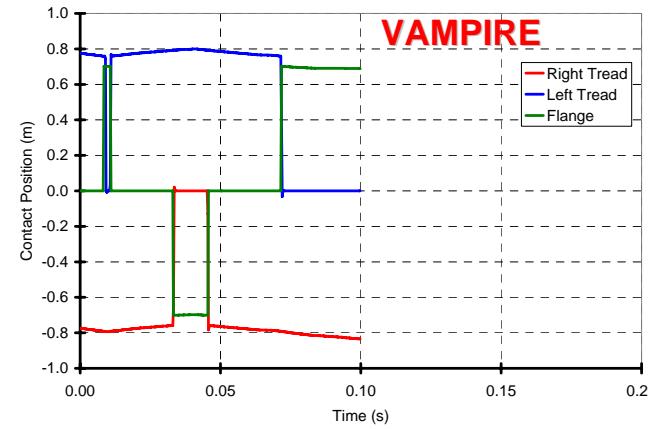
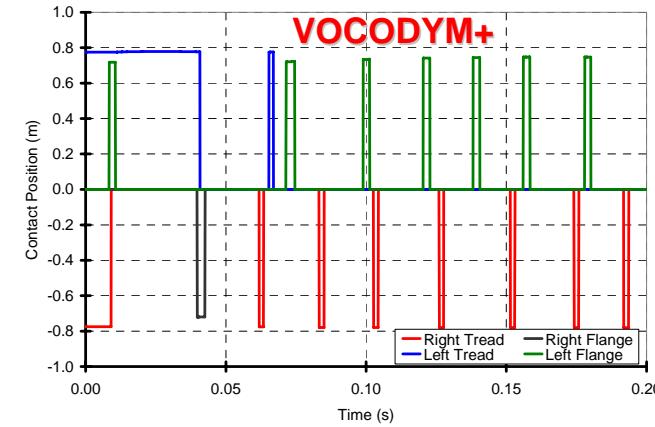
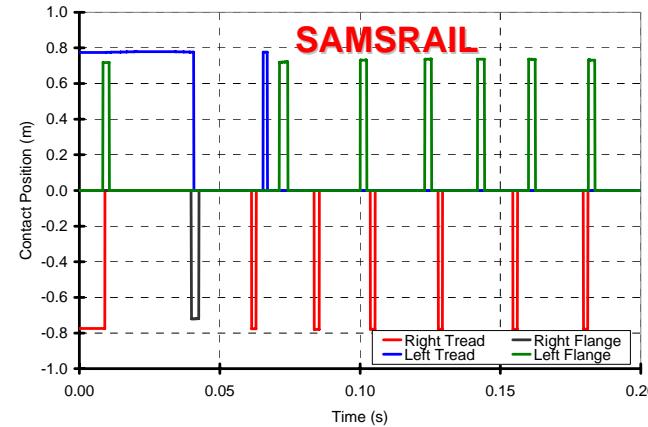




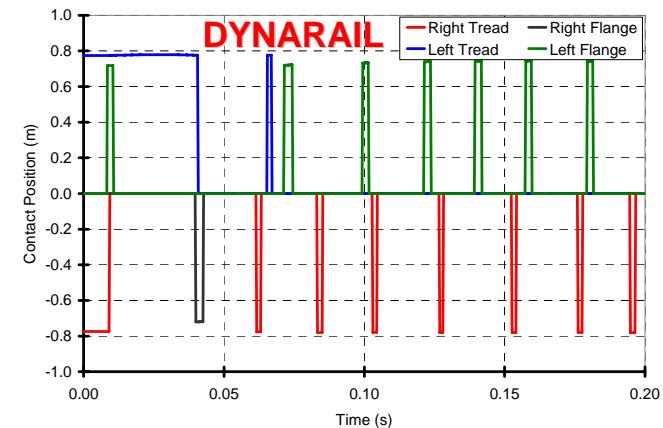
Contact Angle



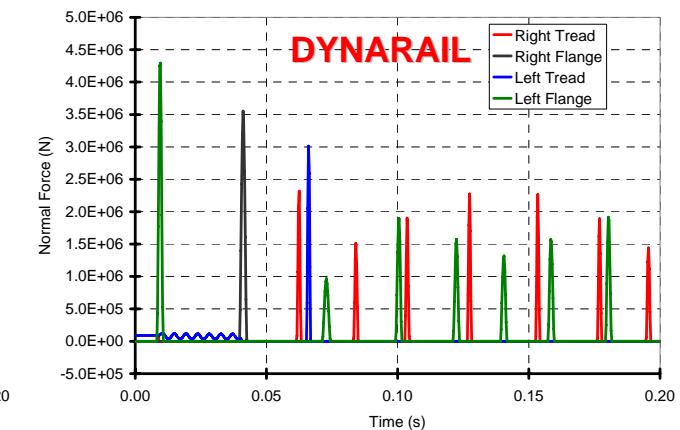
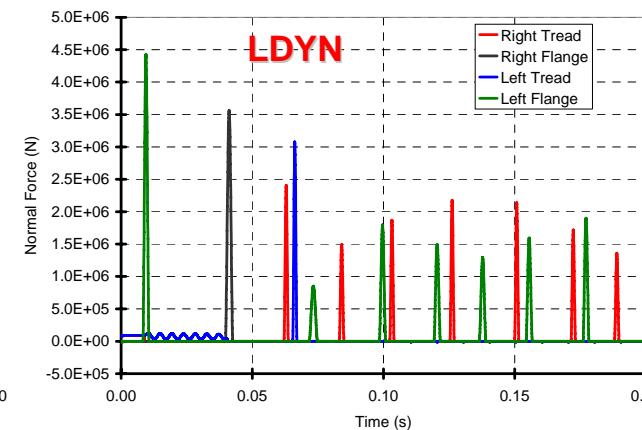
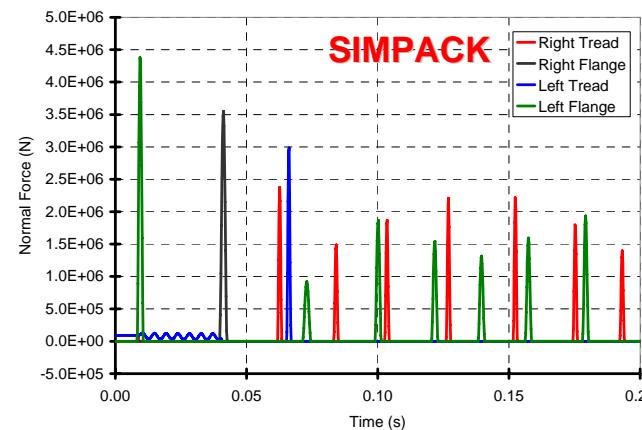
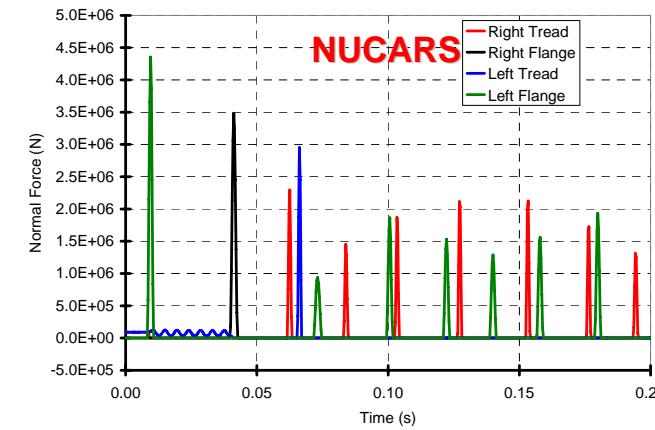
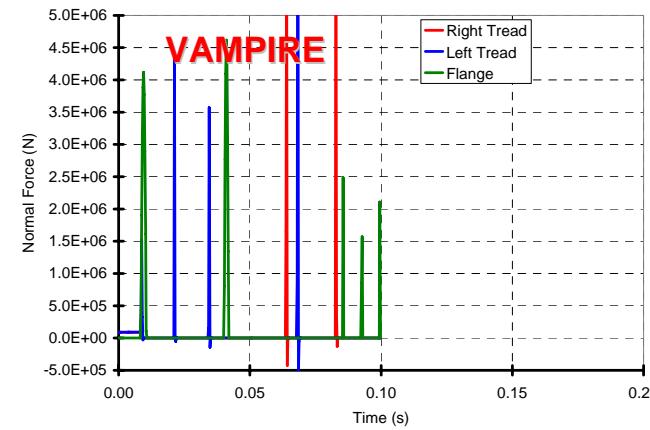
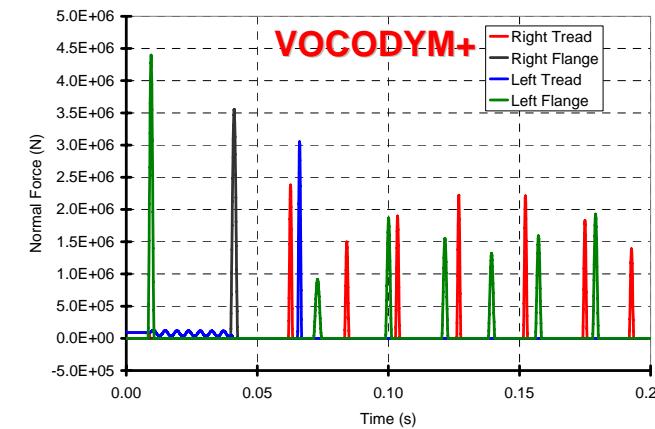
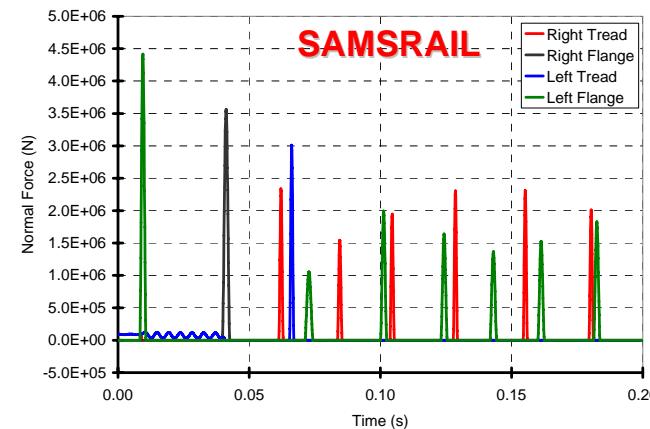
Contact Position



LDYN



Normal Force



C1, Ex4, Simplified Profiles, Lat Vel = 2 m/s

LD Benchmark / Page 11

Energy Balance

