

## ACCELERATION MODEL

### Hypothesis

- Non-deformable tyres
- No slip of tyres
- No suspensions
- No loss in transmission
- The support and aerodynamic drag are considered
- No transitional regime considered

### Complementary information

- The mechanical equation was obtained with a theorem of kinetic energy on the whole vehicle.
- Choice for the coefficient of friction:
  - Constant
  - Value corresponding to 11% slip for 13 inches and 12.5% for 10 inches (maximal friction)
- Engine curve taken from a previous vehicle

### Main issue

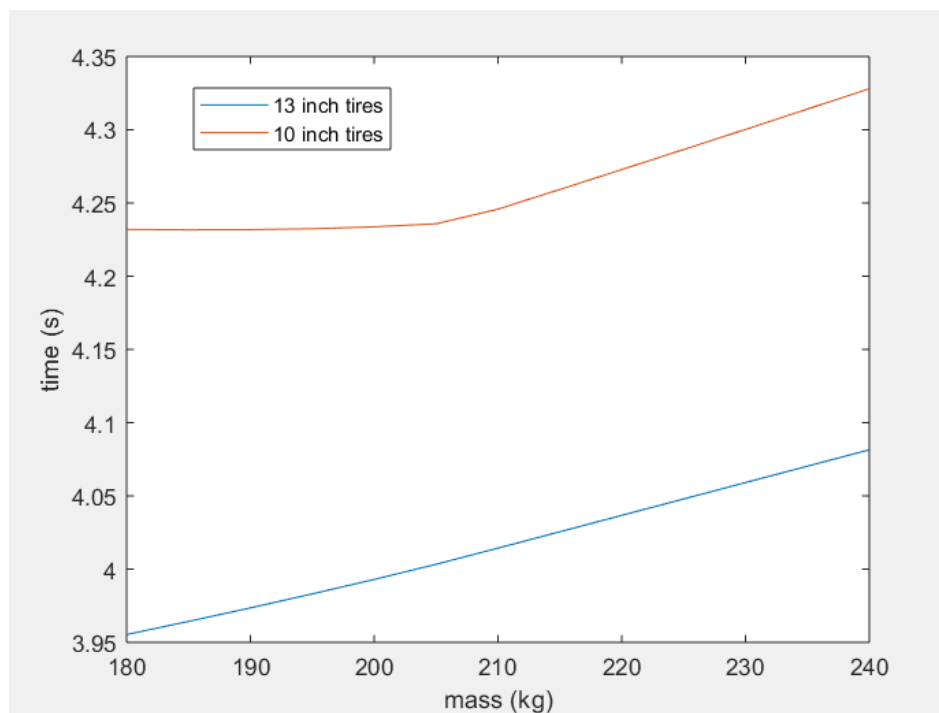


Figure 1: Comparison of acceleration event time simulation for 10-inch and 13-inch wheels

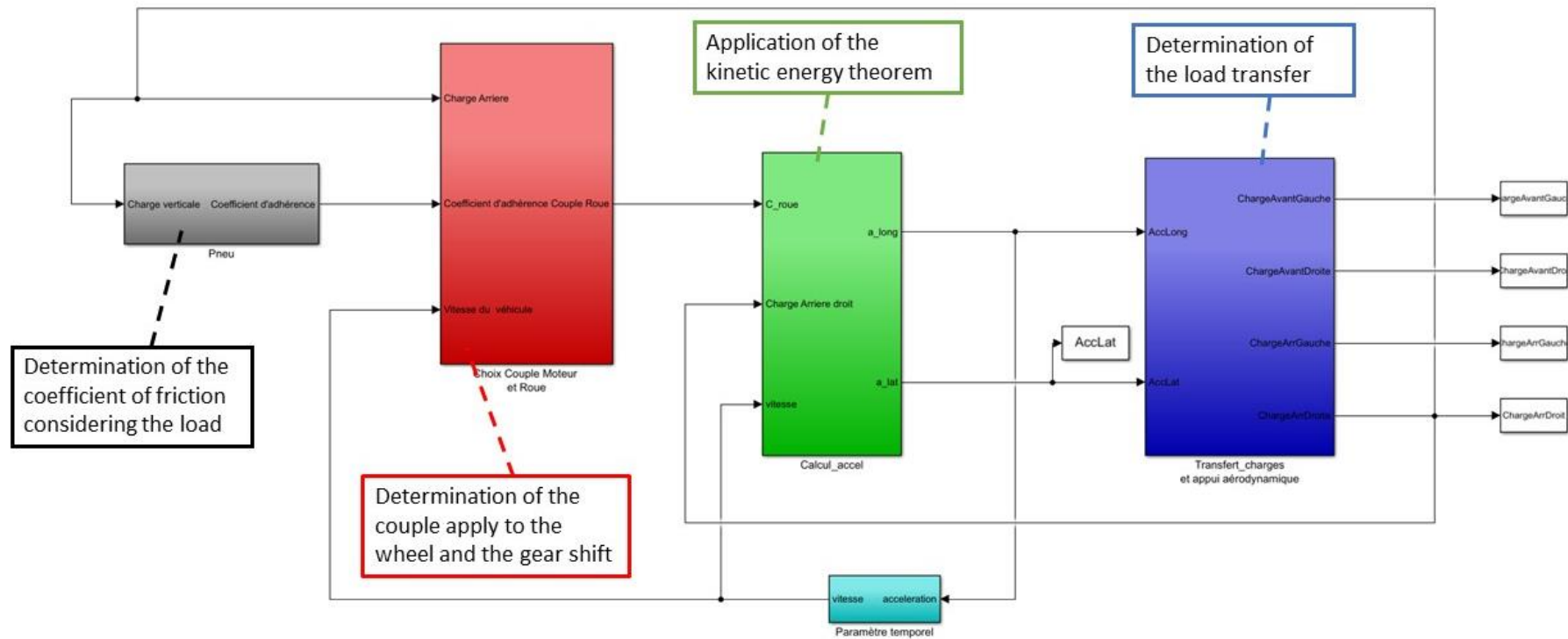


Figure 2: Simulink presentation of the acceleration model