

- 1 Wagon Body (M<sub>c</sub> mass, J<sub>c</sub> inertial moment),
- 2 Secondary Suspension (K<sub>sc</sub> stiffness coefficient, C<sub>sc</sub> damping coefficient),
- $3 Bogie (M_b mass, J_b inertial moment),$
- 4 Primary Suspension (K<sub>pr</sub> stiffness coefficient, C<sub>pr</sub> damping coefficient),
- 5 Wheelset ( $M_w$  mass),
- 6 Rail (Timoshenko Beam)
- 7 Fastener and Pad ( $K_f$ ,  $K_p$  stiffness coefficients,  $C_f$ ,  $C_p$  damping coefficients),
- 8 Sleeper (M<sub>s</sub> mass, K<sub>sl</sub> stiffness coefficient, C<sub>sl</sub> damping coefficient),
- 9 Ballast (M<sub>bl</sub> mass, K<sub>bl</sub> stiffness coefficient, C<sub>bl</sub> damping coefficient),
- 10 Subballast (M<sub>sb</sub> mass, K<sub>sb</sub> stiffness coefficient, C<sub>sb</sub> damping coefficient),
- 11 Subgrade (K<sub>sg</sub> stiffness coefficient, C<sub>sg</sub> damping coefficient).