CLAIMS

1. A running wheel degradation detection method for a running vehicle that travels with a solid running wheel made of synthetic resin that is rotated by a running motor, comprising:

measuring a difference between a velocity of the running wheel obtained based on a number of rotations of the running wheel and a ground speed of the running vehicle as a slip velocity; and

detecting degradation of the running wheel based on a fact that torque of the running motor and the slip velocity have passed through a predetermined abnormal range in a space comprising a torque component and a slip velocity component.

2. The running wheel degradation detection method according to claim 1, wherein the abnormal range is a range in which an inclination of the torque relative to the slip velocity is smaller than or equal to a reference value.

3. The running wheel degradation detection method according to claim 2, wherein the abnormal range is defined as a range during deceleration of the running vehicle.

4. A running wheel degradation detection system for a running vehicle that travels with a solid running wheel made of synthetic resin that is rotated by a running motor, comprising:

a means for measuring a difference between a velocity of the running wheel

obtained based on a number of rotations of the running wheel and a ground speed of the running vehicle as a slip velocity; and

a means for detecting degradation of the running wheel based on a fact that torque of the running motor and the slip velocity have passed through a predetermined abnormal range in a space comprising a torque component and a slip velocity component.

5. A running vehicle that travels with a solid running wheel made of synthetic resin that is rotated by a running motor and has a function of collecting data for detecting degradation of the running wheel, comprising:

a means for measuring a difference between a velocity of the running wheel obtained based on a number of rotations of the running wheel and a ground speed of the running vehicle as a slip velocity; and

a means for detecting and storing a fact that torque of the running motor and the slip velocity have passed through a predetermined abnormal range in a space comprising a torque component and a slip velocity component.