Claims

[Claim 1]

A vehicle vibration control system comprising:

a buffer mechanism disposed between a wheel and a vehicle body, and configured to adjust buffer performance which is a function to reduce a vibration input from the wheel to the vehicle body;

a weight measurement unit that measures a weight of the vehicle body;

a traveling position detection unit that detects a traveling position of the vehicle body; and

a control device that controls the buffer performance of the buffer mechanism,

wherein the control device acquires a driving pattern in which the traveling position of the vehicle body and the buffer performance are set, based on the weight of the vehicle body, and

the buffer performance of the buffer mechanism is controlled, based on the acquired driving pattern and a result detected by the traveling position detection unit.

[Claim 2]

The vehicle vibration control system according to Claim 1,

wherein the driving pattern is information in which the buffer performance of the buffer mechanism that buffers the vibration of the vehicle body is set for each position, based on information on a traveling road surface of the vehicle body, the weight of the vehicle body, and a traveling speed.

[Claim 3]

The vehicle vibration control system according to Claim 1 or 2,

wherein the traveling position detection unit calculates a position, based on data of a drive unit that moves the vehicle body.

[Claim 4]

The vehicle vibration control system according to any one of Claims 1 to 3, further comprising:

a communication unit that communicates with an external device,

wherein the control device outputs information on the weight of the vehicle body by using the communication unit, and acquires the information.

[Claim 5]

The vehicle vibration control system according to any one of Claims 1 to 4,

wherein the buffer mechanism includes an elastic unit that generates an elastic force and a damping unit that generates a damping force.

[Claim 6]

The vehicle vibration control system according to any one of Claims 1 to 5,

wherein the control device has a buffer state detection unit that detects a buffer state of the vehicle body, and

when a difference between the detected buffer state and a state set in the driving pattern is equal to or greater than a threshold value range, the buffer state detection unit stops control of the buffer mechanism.

[Claim 7]

The vehicle vibration control system according to Claim 6,

wherein the buffer state detection unit calculates the buffer state, based on a detection value of an acceleration sensor that detects acceleration of the vehicle body.

[Claim 8]

The vehicle vibration control system according to Claim 6 or 7, further comprising:

a central control device that acquires information from the control device,

wherein when there are two or more vehicles that stop the control of the buffer mechanism in the same zone, information on a road surface in the same zone is reacquired, and

when there is a single vehicle that stops the control of the buffer mechanism in the same zone, a state of the vehicle body is inspected.

[Claim 9]

A vehicle vibration control method for controlling buffer performance of a buffer mechanism disposed between a wheel and a vehicle body, and configured to adjust the buffer performance which is a function to reduce a vibration input from the wheel to the vehicle body, the method comprising:

a step of measuring a weight of the vehicle body;

a step of acquiring a driving pattern in which a traveling position of the vehicle body and the buffer performance are set, based on the weight of the vehicle body;

a step of detecting the traveling position of the vehicle body; and

a step of controlling the buffer performance of the buffer mechanism, based on the acquired driving pattern and a result obtained by detecting the traveling position.

[Claim 10]

A computer-readable recording medium storing a vehicle vibration control program for controlling buffer performance of a buffer mechanism disposed between a wheel and a vehicle body, and configured to adjust the buffer performance which is a function to reduce a vibration input from the wheel to the vehicle body, the program executing a process comprising:

a step of measuring a weight of the vehicle body;

a step of acquiring a driving pattern in which a traveling position of the vehicle body and the buffer performance are set, based on the weight of the vehicle body;

a step of detecting the traveling position of the vehicle body; and

a step of controlling the buffer performance of the buffer mechanism, based on the acquired driving pattern and a result obtained by detecting the traveling position.