CLAIMS

[Claim 1]

A charging system comprising:

an axle load meter disposed on a lane and configured to measure an axle load of each of a plurality of axles of a vehicle traveling on the axle load meter;

an acceleration information acquisition unit configured to acquire, from the vehicle, vertical-direction acceleration information associated with each of the axles;

a correction calculation unit configured to correct, based on the acceleration information, a measurement result for each of the axles obtained by the axle load meter and thus to calculate a corrected axle load for each of the axles;

an axle-load-information calculation unit configured to calculate a greatest value of the corrected axle loads of the individual axles; and

a toll determination unit configured to determine a toll for the vehicle based on the greatest value.

[Claim 2]

The charging system according to claim 1, further comprising:

an acceleration-information request unit configured to transmit, to the vehicle, a request signal for the acceleration information in response to acquisition of the measurement result obtained by the axle load meter,

wherein the acceleration information acquisition unit is configured to acquire the acceleration information provided by the vehicle in response to the request signal.

[Claim 3]

A charging method comprising the steps of:

measuring, by means of an axle load meter disposed on a lane, an axle load of each of a plurality of axles of a vehicle traveling on the axle load meter;

acquiring, from the vehicle, vertical-direction acceleration information associated with each of the axles;

calculating a corrected axle load for each of the axles by correcting, based on the vertical-direction acceleration information, a measurement result for each of the axles obtained by the axle load meter;

calculating a greatest value of the corrected axle loads of the individual axles; and

determining a toll for the vehicle based on the greatest value.

[Claim 4]

A program executable to cause a computer of a charging system including an axle load meter disposed on a lane and configured to measure an axle load of each of a plurality of axles of a vehicle traveling on the axle load meter; an axle-load-information calculation unit configured to calculate a greatest value of corrected axle loads of the individual axles; and a toll determination unit configured to determine a toll for the vehicle based on the greatest value to function as:

an acceleration information acquisition unit configured to acquire, from the vehicle, vertical-direction acceleration information associated with each of the axles; and

a correction calculation unit configured to calculate the corrected axle loads for each of the axles by correcting, based on the vertical-direction acceleration information, a measurement result for each of the axles obtained by the axle load meter.