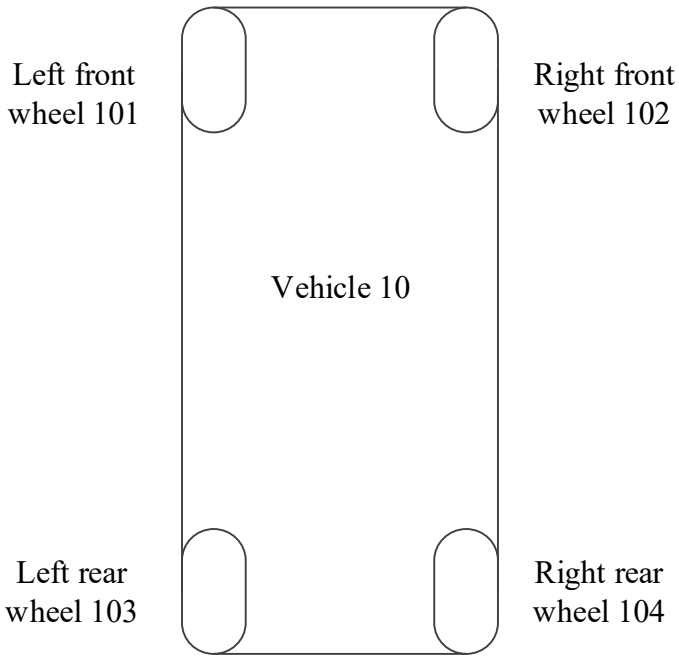
Left front
wheel 101
Right front
wheel 102
Vehicle 10
Left rear
wheel 103
Right rear
wheel 104

FIG. 1

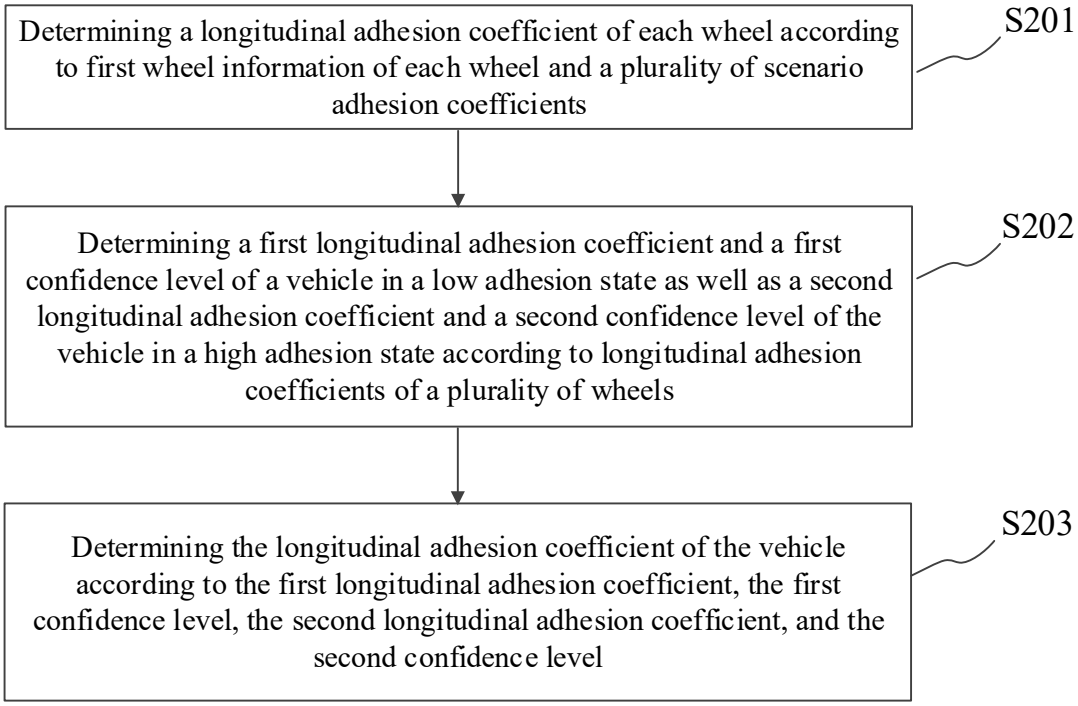
Determining a longitudinal adhesion coefficient of each wheel according to first wheel information of each wheel and a plurality of scenario adhesion coefficients
S201
Determining a first longitudinal adhesion coefficient and a first confidence level of a vehicle in a low adhesion state as well as a second longitudinal adhesion coefficient and a second confidence level of the vehicle in a high adhesion state according to longitudinal adhesion coefficients of a plurality of wheels
S202
Determining the longitudinal adhesion coefficient of the vehicle according to the first longitudinal adhesion coefficient, the first confidence level, the second longitudinal adhesion coefficient, and the second confidence level
S203

FIG. 2a

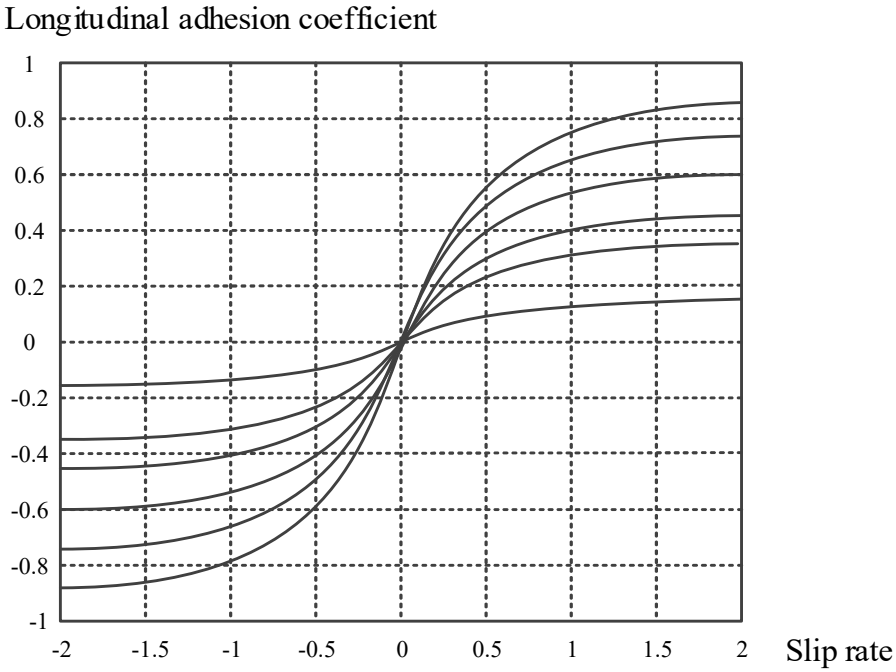
Longitudinal adhesion coefficient
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
Slip rate

FIG. 2b

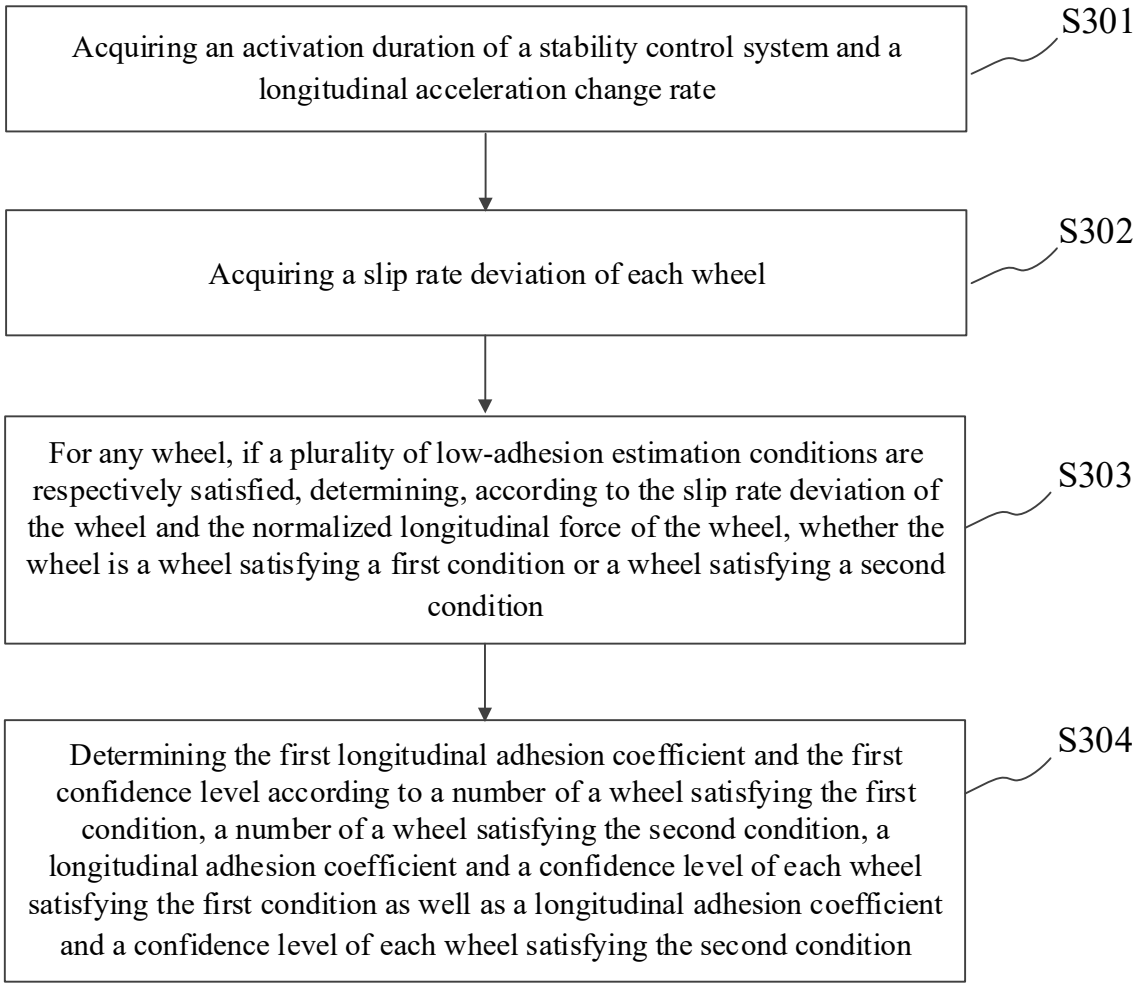
Acquiring an activation duration of a stability control system and a longitudinal acceleration change rate
S301
Acquiring a slip rate deviation of each wheel
S302
For any wheel, if a plurality of low-adhesion estimation conditions are respectively satisfied, determining, according to the slip rate deviation of the wheel and the normalized longitudinal force of the wheel, whether the wheel is a wheel satisfying a first condition or a wheel satisfying a second condition
S303
Determining the first longitudinal adhesion coefficient and the first confidence level according to a number of a wheel satisfying the first condition, a number of a wheel satisfying the second condition, a longitudinal adhesion coefficient and a confidence level of each wheel satisfying the first condition as well as a longitudinal adhesion coefficient and a confidence level of each wheel satisfying the second condition
S304

FIG. 3a

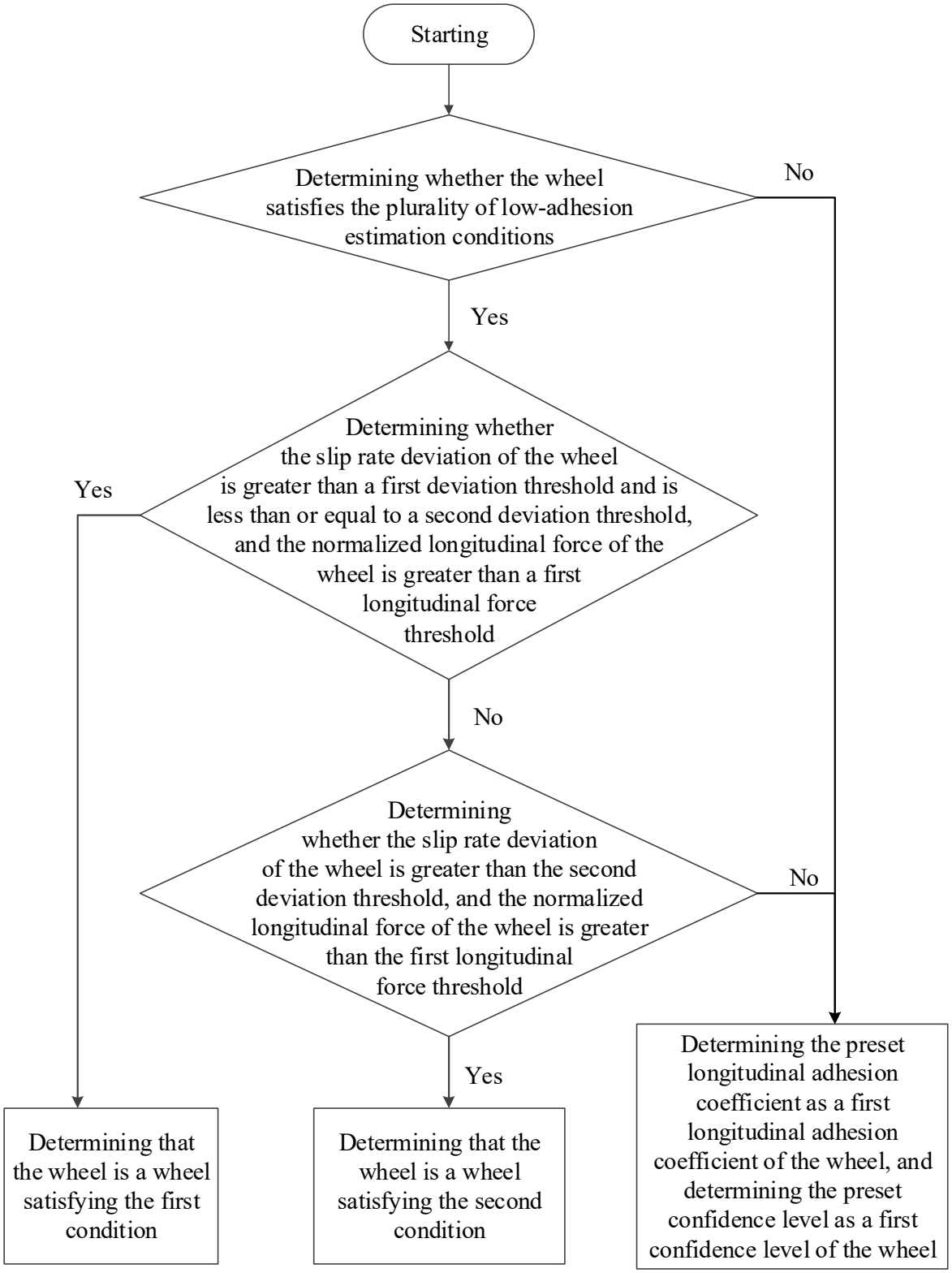
Starting
Determining whether the wheel satisfies the plurality of low-adhesion estimation conditions
No
Yes
Determining whether the slip rate deviation of the wheel is greater than a first deviation threshold and is less than or equal to a second deviation threshold, and the normalized longitudinal force of the wheel is greater than a first longitudinal force threshold
Yes
No
Determining whether the slip rate deviation of the wheel is greater than the second deviation threshold, and the normalized longitudinal force of the wheel is greater than the first longitudinal force threshold
No
Yes
Determining that the wheel is a wheel satisfying the first condition
Determining that the wheel is a wheel satisfying the second condition
Determining the preset longitudinal adhesion coefficient as a first longitudinal adhesion coefficient of the wheel, and determining the preset confidence level as a first confidence level of the wheel

FIG. 3b

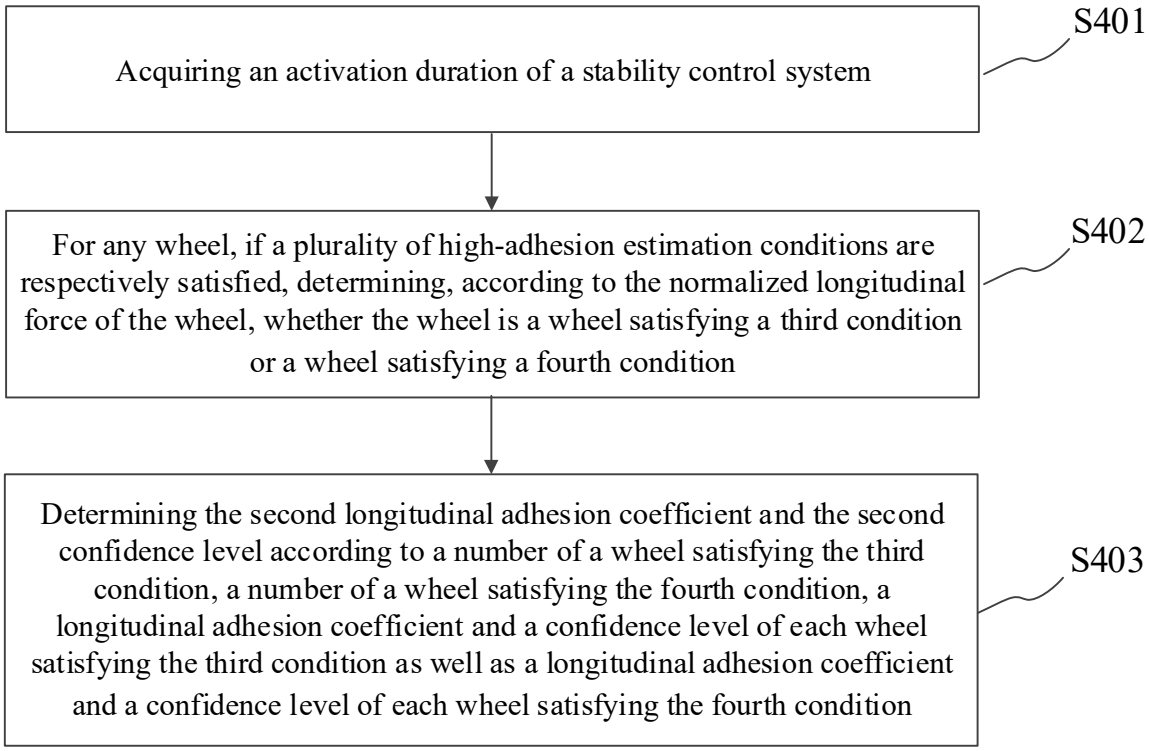
Acquiring an activation duration of a stability control system
S401
For any wheel, if a plurality of high-adhesion estimation conditions are respectively satisfied, determining, according to the normalized longitudinal force of the wheel, whether the wheel is a wheel satisfying a third condition or a wheel satisfying a fourth condition
S402
Determining the second longitudinal adhesion coefficient and the second confidence level according to a number of a wheel satisfying the third condition, a number of a wheel satisfying the fourth condition, a longitudinal adhesion coefficient and a confidence level of each wheel satisfying the third condition as well as a longitudinal adhesion coefficient and a confidence level of each wheel satisfying the fourth condition
S403

FIG. 4a

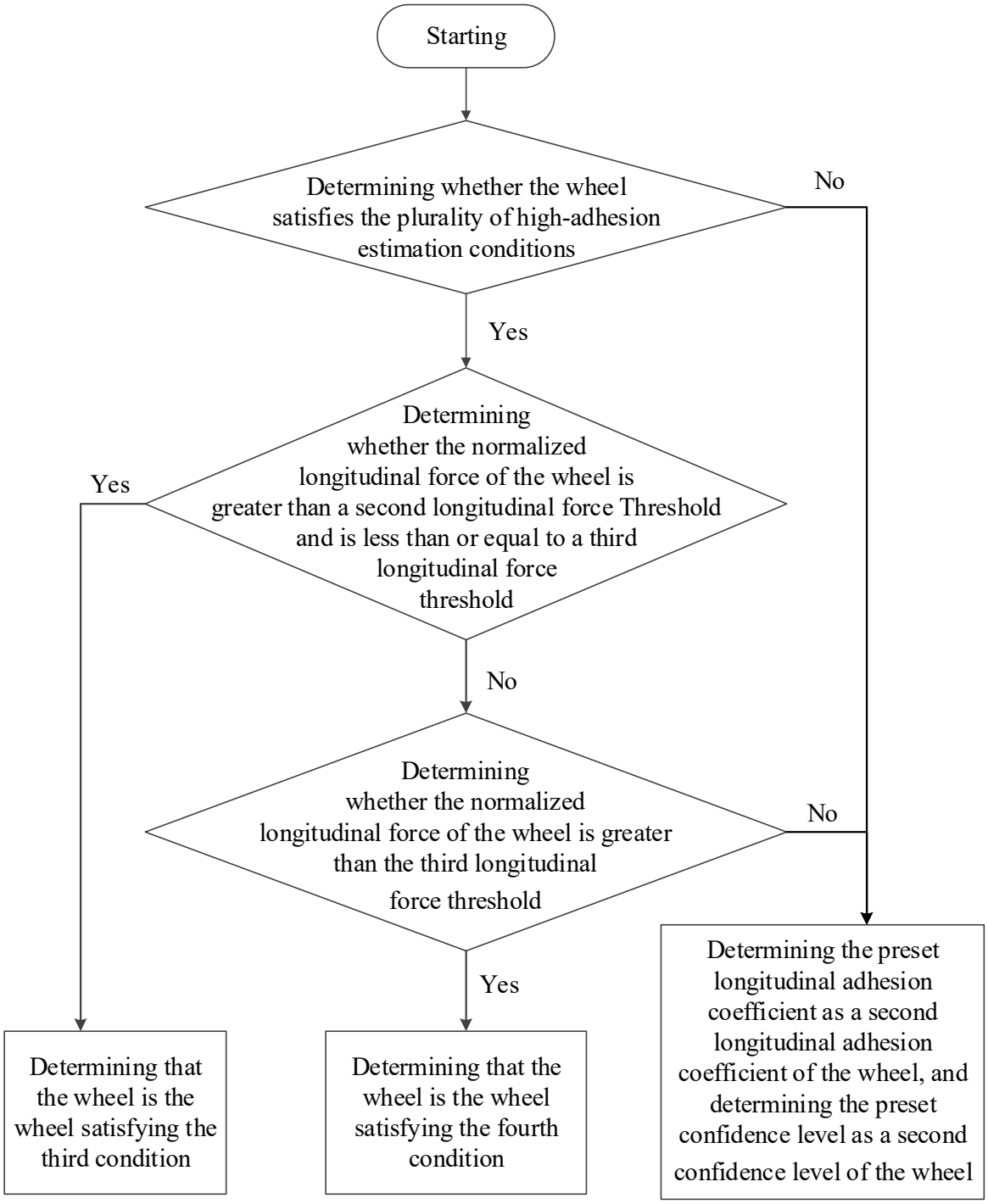
Starting
Determining whether the wheel satisfies the plurality of high-adhesion estimation conditions
No
Yes
Determining whether the normalized longitudinal force of the wheel is greater than a second longitudinal force Threshold and is less than or equal to a third longitudinal force threshold
Yes
No
Determining whether the normalized longitudinal force of the wheel is greater than the third longitudinal force threshold
No
Yes
Determining that the wheel is the wheel satisfying the third condition
Determining that the wheel is the wheel satisfying the fourth condition
Determining the preset longitudinal adhesion coefficient as a second longitudinal adhesion coefficient of the wheel, and determining the preset confidence level as a second confidence level of the wheel

FIG. 4b

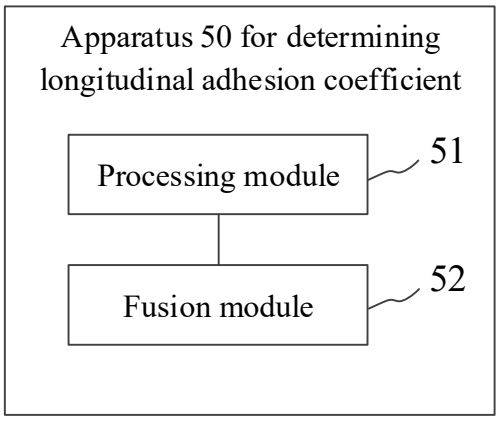
Apparatus 50 for determining longitudinal adhesion coefficient
Processing module
51
Fusion module
52

FIG. 5

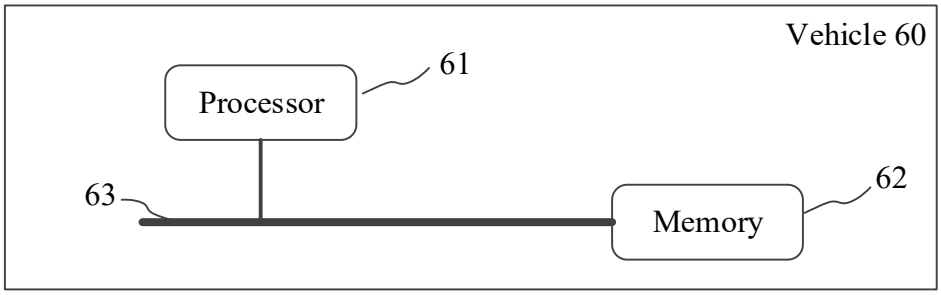
Vehicle 60
Processor
61
63
Memory
62

FIG. 6