

CLAIMS

1. A method for controlling an amusement ride attraction, the method comprising:

controlling a ride vehicle of the amusement ride attraction to move onto a plurality of motion bases of a motion base system, wherein each motion base of the plurality of motion bases comprises a deck configured to receive a respective portion of the ride vehicle when the deck is flush with an adjacent track or floor section, and wherein the ride vehicle is programmed, based on the controlling, to pause motion relative to the deck when the deck receives the respective portion of the ride vehicle while being flush with the adjacent track or floor section;

receiving, at a controller of the motion base system, a signal that the ride vehicle is positioned on the plurality of motion bases; and

actuating, via the controller of the motion base system, the decks of the plurality of motion bases independently of one another while in contact with the ride vehicle in response to the received signal to cause the ride vehicle to roll, pitch, heave, yaw, sway, or surge, wherein actuating the decks of the plurality of motion bases comprises:

providing a first signal to an electrical actuator associated with a first motion base of the plurality of motion bases;

actuating a first deck of the first motion base to move a first distance relative to a top surface of a housing of the first motion base at a first time point;

providing a second signal to an electrical actuator associated with a second motion base of the plurality of motion bases; and

actuating a second deck of the second motion base to move a second distance relative to a top surface of a housing of the second motion base at the first time point.

2. The method of claim 1, wherein actuating decks of the plurality of motion bases including the first deck of the first motion base and the second deck of the second motion base comprises activating an actuation pattern of the first motion base and the second motion base.
3. The method of claim 2, wherein the actuation pattern generates a motion about a roll axis of the ride vehicle based on actuation of the first deck of the first motion base and the second deck of the second motion base, wherein the second motion base is arranged along an axis orthogonal to a direction of forward motion of the ride vehicle.
4. The method of claim 2, wherein the actuation pattern generates a motion about a pitch axis of the ride vehicle based on actuation of the first deck of the first motion base and the second deck of the second motion base, wherein the second motion base is arranged along an axis of forward motion of the ride vehicle.
5. The method of claim 2, wherein the actuation pattern comprises actuating respective decks of a third motion base, a fourth motion base, or more motion bases of the plurality of motion bases.
6. The method of claim 5, wherein the actuation pattern generates a heave motion based on actuation of the respective decks of the first motion base, the second motion base, the third motion base, and the fourth motion base.
7. The method of claim 2, wherein the actuation pattern comprises actuating the first deck of the first motion base to move between a plurality of positions relative to the top surface of the housing of the first motion base at a respective plurality of time points.
8. The method of claim 7, wherein the actuation pattern comprises actuating the second deck of the second motion base to move between a plurality of positions relative to the top surface of the housing of the second motion base at a respective plurality of time points.
9. The method of claim 1, wherein the first distance is different than the second distance.

10. The method of claim 1, wherein the plurality of motion bases are in an inactive configuration when the decks are flush with the adjacent track or floor section and before the actuating of the decks of the plurality of motion bases.

11. The method of claim 10, comprising:

returning the decks of the plurality of motion bases to the inactive configuration after the actuating of the decks of the plurality of motion bases; and

controlling the ride vehicle to move off of the plurality of motion bases and away from the plurality of motion bases when the decks are returned to the inactive configuration.

12. A method, comprising:

controlling a ride vehicle of an amusement ride attraction to move onto a plurality of motion bases of a motion base system, wherein each motion base of the plurality of motion bases comprises a deck configured to receive a respective portion of the ride vehicle when the deck is flush with an adjacent track or floor section, and wherein the ride vehicle is programmed, based on the controlling, to pause motion relative to the deck when the deck receives the respective portion of the ride vehicle while being flush with the adjacent track or floor section;

determining, via a controller of the motion base system, that the ride vehicle is in contact with the plurality of motion bases based on a position signal from a sensor indicating that the ride vehicle is in contact with the plurality of motion bases;

providing, via the controller, at least one activation signal to the plurality of motion bases in response to receiving the position signal; and

actuating, via the controller, the decks of the plurality of motion bases in response to receiving the at least one activation signal, wherein the decks of the plurality of motion bases are

configured to actuate independently of one another while in contact with the ride vehicle to create motion effects for the ride vehicle.

13. The method of claim 12, wherein the at least one activation signal causes the actuating of the decks of the plurality of motion bases according to an actuation pattern.

14. The method of claim 13, comprising receiving user input from a user interface and selecting the actuation pattern based on the user input.

15. The method of claim 14, wherein the user interface is coupled to the ride vehicle.

16. The method of claim 13, wherein the actuation pattern is based on ride parameters.

17. The method of claim 12, wherein the sensor is a position sensor, a pressure sensor, a camera, an optical sensor, or a combination thereof.

18. The method of claim 12, wherein the decks of the plurality of motion bases are in an inactive configuration before the actuating of the decks of the plurality of motion bases, the inactive configuration corresponding to a position of a top surface of the decks of the plurality of motion bases being flush with the adjacent track or floor section.

19. The method of claim 18, wherein the decks of the plurality of motion bases are configured to move to the inactive configuration after the actuating of the decks of the plurality of motion bases.

20. A method, comprising:

controlling a ride vehicle of an amusement ride attraction to move onto a plurality of motion bases of a motion base system, wherein each motion base of the plurality of motion bases comprises a deck configured to receive a respective portion of the ride vehicle when the deck is in a position flush with an adjacent track or floor section, and wherein the ride vehicle is programmed,

based on the controlling, to pause motion relative to the deck when the deck receives the respective portion of the ride vehicle while being flush with the adjacent track or floor section;

transmitting a position signal from at least one sensor indicating the ride vehicle is disposed on each motion base of the plurality of motion bases; and

outputting an activation signal from a controller of the motion base system to the plurality of motion bases in response to receiving the transmitted position signal, wherein the activation signal is configured to cause the decks of the plurality of motion bases to actuate independently of one another to create motion effects for the ride vehicle, wherein each respective deck is actuated from the position flush with the adjacent track or floor section.

21. The method of claim 20, wherein the at least one sensor is coupled to the ride vehicle, the motion base system, a vehicle path, or a combination thereof.

22. The method of claim 20, wherein the activation signal is configured to actuate the decks of the plurality of motion bases based at least on an actuation pattern.

23. The method of claim 22, wherein the actuation pattern is configured to actuate the decks of the plurality of motion bases at different points in time.

24. The method of claim 22, wherein the actuation pattern is configured to actuate the decks of the plurality of motion bases at different rates.

25. The method of claim 22, wherein the actuation pattern is configured to actuate respective decks of a subset of the plurality of motion bases at a given time.