CLAIMS:

1. A presence detection system, comprising:

a presence detection field within an amusement park ride;

a plurality of transmitters configured to send a plurality of light beams of a plurality of wavelengths;

a plurality of receivers configured to receive the plurality of light beams of the plurality of wavelengths, wherein the plurality of light beams is configured to form a through-beam light curtain during operation of the amusement park ride; and

a controller configured to:

receive input from the plurality of transmitters and the plurality of receivers;

determine presence of an object in the presence detection field based on an interruption of the through-beam light curtain as indicated by the input;

convert the through-beam light curtain to a retroreflective light curtain during operation of the amusement park ride in response to the presence of the object in the presence detection field;

determine one or more reflected light beams of the retroreflective light curtain that are reflected by the object, one or more absorbed light beams of the retroreflective light curtain that are absorbed by the object, or both, based on the input;

determine the object as a known object or an unknown object based at least in part on the one or more reflected light beams of the retroreflective light curtain, the one or more absorbed light beams of the retroreflective light curtain, or both.

2. The presence detection system of claim 1, wherein the controller is configured to determine one or more modifications to a device associated with the presence detection field based on the object being the unknown object.

3. The presence detection system of claim 1, wherein the presence detection field extends along a ride path of the amusement park ride.

4. The presence detection system of claim 1, wherein the controller is configured to determine a speed of travel for the object based at least in part on the input from the plurality of transmitters and the plurality of receivers.

5. The presence detection system of claim 1, wherein the controller is configured to track the object based at least in part on the input from the plurality of transmitters and the plurality of receivers.

6. The presence detection system of claim 1, wherein the controller is configured to automatically convert configuration of the plurality of transmitters, the plurality of receivers, or both, from a first configuration to a second configuration in response to determining the presence of the object.

7. The presence detection system of claim 6, wherein the first configuration comprises the through-beam light curtain and the second configuration comprises the retroreflective light curtain.

8. The presence detection system of claim 1, wherein the plurality of transmitters and the plurality of receivers form the through-beam light curtain of the plurality of light beams for the presence detection field, and wherein the through-beam light curtain is disposed in parallel to a direction of travel of the object.

9. The presence detection system of claim 1, wherein the controller is configured to simultaneously track multiple objects in the presence detection field, wherein the multiple objects are associated with different traveling speeds, locations, or both.

10. The presence detection system of claim 1, wherein the controller is configured to:

determine the object as the known object and an additional object as the unknown object, and

simultaneously enable the known object to pass through the presence detection field and prevent the unknown object from passing through the presence detection field.

11. The presence detection system of claim 1, wherein at least a portion of the presence detection field comprises a curve, and wherein the curve corresponds to a curved ride path of a ride of the amusement park ride.

12. The presence detection system of claim 1, wherein the controller is configured to determine one or more respective wavelengths of the plurality of wavelengths reflected by

the object based on the one or more reflected light beams, one or more respective wavelengths of the plurality of wavelengths absorbed by the object based on the one or more absorbed light beams, or both.

13. The presence detection system of claim 1, wherein each transmitter of the plurality of transmitters is configured to send a respective light beam of a respective wavelength.

14. The presence detection system of claim 1, wherein the controller is configured to:

store an expected combination of the plurality of wavelengths associated with the known object;

determine a combination of one or more respective wavelengths of the plurality of wavelengths reflected by the object based on the one or more reflected light beams, one or more respective wavelengths of the plurality of wavelengths absorbed by the object based on the one or more absorbed light beams, or both; and

determine the object as the known object based on the combination of the one or more respective wavelengths of the plurality of wavelengths reflected by the object, one or more respective wavelengths of the plurality of wavelengths absorbed by the object, or both corresponding to the expected combination.

15. The presence detection system of claim 1, wherein a first transmitter of the plurality of transmitters is configured to send a first light beam of the plurality of light beams, the first light beam of the plurality of light beams comprises a particular wavelength of the plurality of wavelengths, and the controller is configured to determine the object as the known object or the unknown object based at least in part on whether the first light beam is reflected by the object or absorbed by the object.

16. The presence detection system of claim 1, wherein the amusement park ride comprises a ride path, and wherein the ride path comprises one or more sensors to detect a ride vehicle along the ride path.

17. The presence detection system of claim 16, wherein the controller is configured to activate the presence detection system based on receiving one or more signals from the one or more sensors indicating detection of the ride vehicle along the ride path by the one or more sensors.

18. A method, comprising:

determining a presence of one or more objects in a field of interest based on an interruption of a through-beam light curtain formed by a first plurality of transceivers disposed on a first side of the field of interest and a second plurality of transceivers disposed on a second side of the field of interest, wherein the field of interest is within an amusement park ride;

in response to determining the presence of the one or more objects, converting the through-beam light curtain to a retroreflective light curtain during operation of the amusement park ride; and

determining the one or more objects as approved objects or unapproved objects based at least in part on wavelengths of light from the retroreflective light curtain that are absorbed by the one or more objects, reflected by the one or more objects, or both.

19. The method of claim 18, wherein the field of interest comprises a loading station of the amusement park ride, a ride path of the amusement park ride, or both.

20. A light curtain device, comprising:

a memory configured to store instructions; and

a processor configured to execute the instructions, causing the processor to:

determine presence of an object within a through-beam light curtain of a field of interest of the light curtain device, wherein the field of interest is within an amusement park ride;

convert the through-beam light curtain to a retroreflective light curtain during operation of the amusement park ride in response to the presence of the object;

send a plurality of light beams of a plurality of wavelengths via a plurality of transceivers of the light curtain device;

determine one or more reflected light beams reflected by the object, one or more absorbed light beams absorbed by the object, or both; and

determine the object as a known object or an unknown object based at least in part on the one or more reflected light beams, the one or more absorbed light beams, or both.

21. The light curtain device of claim 20, wherein the known object corresponds to an approved signature of the one or more reflected light beams, the one or more absorbed light beams, or both.