

CLAIMS

1. An area determination system, comprising:
 - an acquisition unit configured to acquire information on a reception strength of a radio signal at a receiver, the radio signal being transmitted from a transmitter at a predetermined cycle;
 - a first estimation unit configured to estimate, based on a plurality of pieces of information on the reception strength acquired by the acquisition unit in a first time period, a location of the transmitter, the first time period being longer than the predetermined cycle;
 - a first determination unit configured to determine, based on the location of the transmitter estimated by the first estimation unit, an area in which the transmitter is present;
 - a second estimation unit configured to estimate, based on a plurality of pieces information on the reception strength acquired by the acquisition unit in a second time period, the location of the transmitter, the second time period being longer than the first time period and partially overlapping the first time period;
 - a second determination unit configured to determine, based on the location of the transmitter estimated by the second estimation unit, the area in which the transmitter is present;
 - and
 - a correction unit configured to, when a determination result by the first determination unit is different from a determination result by the second determination unit, correct the determination result by the first determination unit to the determination result by the second determination unit.

2. The area determination system of claim 1, further comprising a third determination unit configured to determine, based on at least one piece of information on the reception strength acquired in a third time period shorter than the first time period, the area in which the transmitter is present.

3. The area determination system of claim 2, wherein
 - the first time period is set to partially overlap the third time period, and
 - the area determination system of further includes a second correction unit different from the correction unit as a first correction unit configured to, when a determination result by the third

determination unit is different from a determination result by the first determination unit, correct the determination result by the third determination unit to the determination result by the first determination unit.

4. The area determination system of any one of claims 1 to 3, further comprising the receiver.

5. The area determination system of claim 4, comprising a plurality of the receivers.

6. The area determination system of any one of claims 1 to 5, further comprising the transmitter.

7. An area determination method, comprising:

an acquisition step of acquiring information on a reception strength of a radio signal at a receiver, the radio signal being transmitted from a transmitter at a predetermined cycle;

a first estimation step of estimating, based on a plurality of pieces of information on the reception strength acquired in a first time period, a location of the transmitter, the first time period being longer than the predetermined cycle;

a first determination step of determining, based on the location of the transmitter estimated in the first estimation step, an area in which the transmitter is present;

a second estimation step of estimating, based on a plurality of pieces of information on the reception strength acquired in a second time period, the location of the transmitter, the second time period being longer than the first time period and partially overlapping the first time period;

a second determination step of determining, based on the location of the transmitter estimated in the second estimation step, the area in which the transmitter is present; and

a correction step of, when a determination result in the first determination step is different from a determination result in the second determination step, correcting the determination result in the first determination step to the determination result in the second determination step.

8. A program configured to cause one or more processors to execute the area determination method of claim 7.