

# The mathematical foundations of the RFID localization framework\*

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## Abstract

In this article, we examine problems related to RFID systems with which the antennas and the connected readers are able to find a transponder with greater precision and are able to locate their position with a greater probability.

The central problem is how to cover a relatively large area, such as an airport terminal or a railway station's waiting room, with the smallest possible number of RFID antennas.

The second important question of the research is what infrastructure and mathematical apparatus are required to decide the location of the transponder within an area under question, with the highest possibility.

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