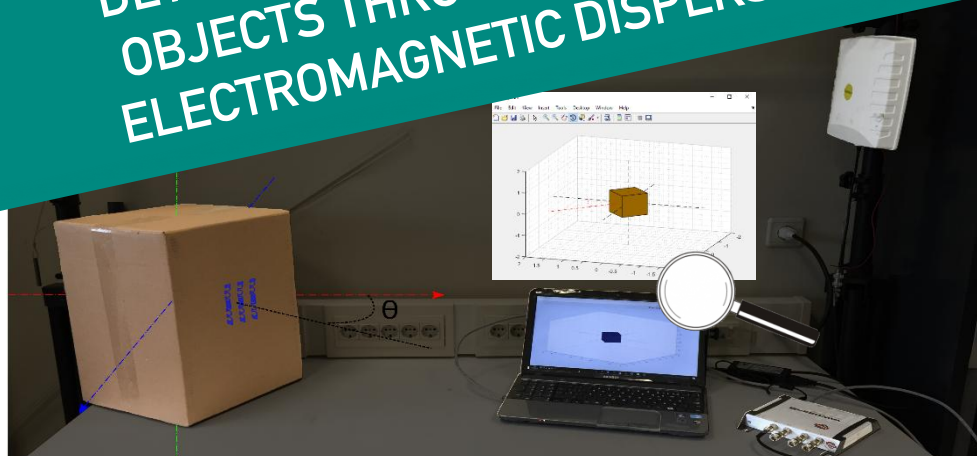




# SYSTEM AND METHOD FOR DETECTING THE ORIENTATION OF OBJECTS THROUGH THE USE OF ELECTROMAGNETIC DISPERSERS

## TECHNOLOGY OFFER



## COMPETITIVE ADVANTAGES

- ✓ **Diversification of applications:** storage and logistics, industrial automation, process control, product packaging...
- ✓ **Technical and implementation simplicity,** not then requiring a high investment for tuning.
- ✓ **3D manipulation operations in real time** and accurate storage, as it determines the angular orientation and the three-dimensional position of an object from a distance.

## INNOVATIVE ASPECTS

- ✓ Precise estimations done with very simple infrastructure. Since the system uses phase measurements, it does not require rotating or directional antennas and it is only necessary to transmit on a single frequency.
- ✓ Estimations done for long periods of time, permanently or intermittently, in a reliable and robust way. When using RFID tags as scatterers, the system does not require batteries in the object whose orientation is to be estimated. It is also an advantage in those cases in which the elements, once introduced into a space, are difficult to access, or where objects can emit substances dangerous to health (radiation or chemical contaminants).
- ✓ Inexpensiveness of the system. As it can be implemented using RFID tags, the cost is very low.

## ABSTRACT

Determining the location and orientation of an element in a three-dimensional space is helpful information with several applications in traffic control, aerospace industry, mining and quarrying, manufacturing or warehousing and logistics. While the accuracy in determining the location is substantial, that is often incomplete because in some cases the determination of the orientation can be even more critical.

The present invention relates to a system and a method for detecting the *orientation* and the position of objects (including biological items, living beings or toxic objects), to which a group of electromagnetic scatterers (e.g. adhesive RFID tags) are attached, by transmitting wirelessly electromagnetic signals through a transmitting device and processing the scattered signals in a receiving device.

## PATENTS

ES patent applied.  
In time to seek international patent protection.

## TYPE OF COLLABORATION

Licence agreement.