Domain Identification By Frontier Observation
In Cylindrical And Spherical Reference Frame

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Abstract:
The objective of this work, which was conducted at eNOV and Laboratory of Computer Science, Telecommunications and Applications (LITA) was to carry out the determination procedures to identify a domain by looking border. We proved that if well-defined signals are sent on the known edge $\Gamma_0$ of a regular field $\Omega$ on cylindrical and spherical shapes, where prevail some phenomena modelled by partial derivative equations and that following a certain number of ow measurements on the same edge, knowing $\int_{\Gamma_0} \frac{\partial u}{\partial n} \, d\Gamma$ (where $n$ indicates the normal external of $\partial \Omega$), it is possible to find a method which leads to the determination of $\Omega$. The demonstration were made in the cylindrical and spherical references frames of a domain.

Keywords: Distribution theory, Transmission theorem, Domain recognition, frontier, algorithm.

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