Domain Identification By Frontier Observation In Cylindrical And Spherical Reference Frame

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Abstract :

The objective of this work, which was conduct at eINOV 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 Γ_0 of a regular field Ω 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 $\int_{\Gamma_0} \frac{\partial u}{\partial n} g d\Gamma$ (where n indicates the normal external of $\partial\Omega$), it is possible to find a method which leads to the determination of Ω. 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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