



IPM Math Colloquium

سخنرانی عمومی

Angle of analyticity for Dirichlet-to-Neumann semigroup

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چکیده

We define the Dirichlet-to-Neumann operator and the semigroup generated by this operator. This semigroup is analytic and our aim is to estimate its angle of analyticity. In his book **Functional Analysis**, Peter Lax gives an explicit representation of this semigroup when γ , the matrix of conductivity, is the identity and the domain Ω is the unit ball in \mathbb{R}^n . We generalize this construction in \mathbb{R}^2 to general domains Ω and general γ , by defining an analytic flow and give the semigroup as the limit of approximating family of operators. Finally we give an upper bound of absolute value of this angle by using the Vitali's Theorem.

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