

1104-35-199

Pedro Tavares Paes Lopes* (dritao@yahoo.com), Sao Carlos, Brazil. *Gelfand-Shilov regularity of SG elliptic boundary value problems.*

We study the regularity in Gelfand-Shilov spaces of elliptic boundary value problems on the half space and on the complement of a bounded set. We restrict our study to operators whose coefficients satisfy estimates of the following type $|\partial^\beta a(x)| \leq C \langle x \rangle^{m_2 - |\beta|}$.

Recently M. Capiello et al. used pseudo-differential operators to study similar differential equations on \mathbb{R}^n , obtaining exponential decay of solutions of traveling waves equations.

In our work, we apply their methods to study the regularity of elliptic boundary value problems that satisfy an analogous of the Lopatinski-Shapiro condition - as described by A. K. Erkip and C. Parenti. In order to do that, we characterize first the restrictions of Gelfand-Shilov functions on the half-space, then we study behavior of the class of pseudo-differential operators defined by the above authors on the half plane, the so-called transmission property. The results we obtain are analogous to the results in \mathbb{R}^n . (Received September 01, 2014)