
GALIA DAFNI, Concordia University

Extension domains for bmo

In joint work with Almaz Butaev (Calgary), we consider the problem of characterizing domains $\Omega \subset \mathbb{R}^n$ for which there exists a bounded linear extension operator from $\text{bmo}(\Omega)$ to $\text{bmo}(\mathbb{R}^n)$, where bmo denotes the nonhomogeneous (also called "local") space of functions of bounded mean oscillation, defined by Goldberg. The analogous problem for BMO was solved by Jones, who identified extension domains for BMO with uniform domains. He subsequently defined local versions of these domains, called (ϵ, δ) domains, and proved extension results for Sobolev functions on such domains. We show that the condition on the domain is both necessary and sufficient for the extension of bmo functions.