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A note on Hardy spaces and functions of bounded mean oscillation on domains in $\mathbb{C}^n$.

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Let Ω be a smoothly bounded domain in $\mathbb{C}^n$, $n \geq 2$ and $H^1(\Omega)$ be Hardy space of holomorphic functions on Ω. Let, further, BMOA(Ω) be the space of holomorphic functions in $H^1(\Omega)$ whose boundary values are in BMO($\partial\Omega$).

The following theorem is the main result of this paper.

Theorem 1.1. Let Ω be a bounded strongly pseudoconvex domain in $\mathbb{C}^n$, or a bounded pseudoconvex domain of finite type in $\mathbb{C}^2$. Then the dual of $H^1(\Omega)$ is BMOA(Ω).

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MSC:

32A35 H^p-spaces, Nevanlinna spaces of functions in several complex variables

32A37 Other spaces of holomorphic functions of several complex variables (e.g., bounded mean oscillation (BMOA), vanishing mean oscillation (VMOA))

Keywords:

BMOA; Hardy space; holomorphic functions; pseudoconvex domain; finite type

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