

Women in Mathematics in South-Eastern Europe

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Hadamard Multiplication Theorem in \mathbb{C}^n

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The Hadamard product of two holomorphic functions given by Taylor series $\sum_{\alpha} a_{\alpha} z^{\alpha}$ and $\sum_{\alpha} b_{\alpha} z^{\alpha}$, defined on neighborhoods Ω_1 and Ω_2 of the origin, is the function whose Taylor series is $\sum_{\alpha} a_{\alpha} b_{\alpha} z^{\alpha}$. For $n = 1$, it is known that the Hadamard product extends to a holomorphic function on the so-called $*$ -product of Ω_1 and Ω_2 . We generalize this result to the case of several complex variables.