BOUNDARY SCHWARZ LEMMA FOR HARMONIC AND PLURIHARMONIC MAPPINGS IN THE UNIT BALL

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Abstract. In this paper, we consider pluriharmonic and harmonic mappings $f$ defined on the unit ball $\mathbb{B}^n$, $n \geq 2$, differentiable at a point $a$ on the boundary of $\mathbb{B}^n$, and $f(\mathbb{B})$ satisfies some convexity hypothesis at $f(a)$. For those mappings $f$, we obtain versions of its boundary Schwarz lemma and the sharp estimate of the eigenvalue related to its Jacobian at $a$. In particular, Theorem ?? below, solves the corresponding extremal problems concerning the magnitude of the radial derivative of $f$ at the direction $a$ and improves the main estimates given in [7] and [12]. Moreover, we partly generalized the corresponding results given in [8] and [24].


Keywords and phrases: Heinz-Schwarz inequality, Harnack inequality, boundary Schwarz lemma, Pluriharmonic mappings.

REFERENCES


