

Integral Operators of Harmonic Analysis in Local Morrey-Lorentz Spaces

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Abstract

In a series of papers by the author jointly with his co-authors V.S. Guliyev, C. Aykol, A. Serbetci the local Morrey-Lorentz spaces $M_{p,q;\lambda}^{loc}(R^n)$ have been introduced and the basic properties of these spaces have been given, and the boundedness of the Hilbert transform H , the Hardy-Littlewood maximal operator M , the Calderon-Zygmund operators T , and Riesz potential I_α on the spaces $M_{p,q;\lambda}^{loc}(R^n)$ has been extensively studied. This talk is dedicated to these results obtained by the author jointly with his co-authors. The basic properties of the local Morrey-Lorentz spaces $M_{p,q;\lambda}^{loc}(R^n)$ will be given. The boundedness of classical operators of harmonic analysis, such as Hilbert transform H , the Hardy-Littlewood maximal operator M , the Calderón-Zygmund operators T , and Riesz potential I_α will be proved on the spaces $M_{p,q;\lambda}^{loc}(R^n)$.

Keywords

Local Morrey-Lorentz spaces, Hilbert transform, Hardy-Littlewood maximal operator, Calderón-Zygmund operators, Riesz potential