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УДК 517.55

On Asymptotic Expansion of the Conormal Symbol of the Singular Operator

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We study the conormal symbol of the singular Bochner-Martinelli integral on a compact closed surface with conical points S in mathbbC^n and evaluate its asymptotic expansion.

Keywords: singular Bochner-Martinelli operator, conormal symbol, conical point

Introduction

Smooth manifolds with conical points are the simplest singular spaces in the hierarchy of stratified varieties. Differential analysis on such manifolds was perhaps initiated by Kondrat'ev [1] who invented the so-called conormal symbol of a differential operator at a singular point.

1. Integral

Theorem 1 ([4])**.** *Integral (2) induces a bounded linear operator in $\mathcal{L}^{2,\gamma}(X \times [0, R))$ provided $1 - 2n < \gamma < 0$.*

PROOF. We will consider a smooth hypersurface $\mathcal{S}$ in $\mathbb{C}^n \setminus \{0\}$ with a singular point at the origin given by

$$\mathcal{S} = \{(\varphi(r)x, r) \in \mathbb{R}^{2n} : x \in X, r \in [0, R)\}. \tag{1}$$

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