Lp microlocal properties for vector weighted pseudodifferential operators with smooth symbols

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**Abstract**

The authors introduce a class of pseudodifferential operators, whose symbols satisfy completely inhomogeneous estimates at infinity for the derivatives, namely:

$$|\frac{\partial^\alpha}{\partial x^\alpha} \frac{\partial^\beta}{\partial \xi^\beta} a(x, \xi)| \leq c_{\alpha,\beta} m(\xi) \Lambda(\xi)^{-\alpha},$$

where $m(\xi)$ is a suitable positive continuous weight function, which indicates the “order” of the symbol, and $\Lambda(\xi) = (\lambda_1(\xi), \ldots, \lambda_n(\xi))$ is a weight vector.

Continuity properties in suitable weighted Sobolev spaces of $L^p$ type are given and $L^p$ microlocal properties studied.

**Bibliography**

