

Kohn, J. J.

Estimates for $\bar{\partial}_b$ on pseudoconvex CR manifolds. (English) Zbl 0571.58027

Pseudodifferential operators and applications, Proc. Symp., Notre Dame/Indiana 1984, Proc. Symp. Pure Math. 43, 207-217 (1985).

[For the entire collection see [Zbl 0562.00004](#).]

The author gives some estimates of the form

$$\|\xi u\|_{S+\epsilon} \leq C_S(\|\xi' \bar{\partial}_b u\|_S + \|\bar{\partial}_b u\|).$$

Here $\bar{\partial}_b$ is (the L^2 -closure of) the operator $\bar{\partial}_b : C^\infty(u) \rightarrow B^{0,1}(u)$ defined by $\langle \bar{\partial}_b u, \bar{L} \rangle = \bar{L}u$, where $B^{0,1}(u)$ is the space of C^∞ -sections over an open set $U \subset M$ of $B^{0,1}(M)$. By $B^{0,1}(M)$ the dual bundle of $T^{0,1}(M)$ is denoted, M is the pseudoconvex CR-manifold under consideration, and ξ, ξ' are suitable cut-off-functions. Concerning the assumptions of M and the range of ϵ the author has to distinguish the case $\dim_{\mathbb{R}} M = 3$ from the case $\dim_{\mathbb{R}} M = 2n - 1, n > 2$.

Reviewer: N.Jacob

MSC:

- [58J60](#) Relations of PDEs with special manifold structures (Riemannian, Finsler, etc.)
- [35N15](#) $\bar{\partial}$ -Neumann problems and formal complexes in context of PDEs
- [32T99](#) Pseudoconvex domains
- [32W05](#) $\bar{\partial}$ and $\bar{\partial}$ -Neumann operators

Cited in **2** Reviews
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Keywords:

[pseudoconvex CR manifolds](#); [estimates for \$\bar{\partial}_b\$](#)