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Class of hypocomplex structures on the two-dimensional torus. (English) Zbl 1421.35050
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Summary: We study the Hölder solvability of a class of complex vector fields on the torus \mathbb{T}^2 . We make use of the Theta function to associate a Cauchy-Pompeiu type integral operator. A similarity principle for the solutions of the equation $Lu = au + b\bar{u}$ is obtained.

MSC:

35F05 Linear first-order PDEs

35A01 Existence problems for PDEs: global existence, local existence, non-existence

35C15 Integral representations of solutions to PDEs

Cited in 1 Document

Keywords:

complex vector fields; first integrals; theta function; global solvability; similarity principle; Hölder solvability; Cauchy-Pompeiu type integral operator

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