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Global analytic hypoellipticity and pseudoperiodic functions. (English) Zbl 0979.35036

Mat. Contemp. 18, 43-57 (2000).

Summary: We show that a class of overdetermined systems on the 3-torus associated to a closed 1-form c on the 2-torus $\mathbb{T}^2 \simeq \mathbb{R}^2/2\pi\mathbb{Z}^2$ is globally analytic hypoelliptic if and only if every $B : \mathbb{R}^2 \rightarrow \mathbb{R}$ such that $dB = \text{Im } c$ is an open map at each point.

MSC:

35H10 Hypoelliptic equations

35N05 Overdetermined systems of PDEs with constant coefficients

35F05 Linear first-order PDEs

Cited in 7 Documents

Keywords:

stationary phase