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Remarks about global analytic hypoellipticity. (English) Zbl 0932.35046
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In the paper under consideration a necessary and sufficient condition for the global analytic hypoellipticity (GAH) on the torus T^2 of the first-order operator $L = \partial_t + (a(t) + ib(t))\partial_x$ is proved. The coefficients a , b of L are real-valued, real-analytic functions on the unit circle.

In Section 3 a necessary and sufficient condition for GAH of the involutive system of vector fields $L_j = \partial_j + c_j(t_j)\partial_x$, $j = 1, \dots, n$ on T^{n+1} is shown. The author proposes several examples illustrating his main results.

Reviewer: P.Popivanov (Sofia)

MSC:

35H10 Hypoelliptic equations

Cited in **28** Documents

Keywords:

exponential Liouville numbers; exponential Liouville vectors; steepest descent; involutive systems; continued fractions

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