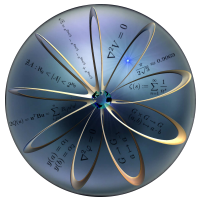

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hypoelliptic

Canonical name	Hypoelliptic
Date of creation	2013-03-22 16:01:13
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Entry type	Definition
Classification	msc 35H10
Defines	analytically hypoelliptic
Defines	analytic hypoelliptic

Definition. Let P be a partial differential operator defined in an open subset $U \subset \mathbb{R}^n$. If for every http://planetmath.org/Distribution4distribution u defined in an open subset $V \subset U$ such that Pu is C^∞ (smooth), u must also be C^∞, then P is called *hypoelliptic*.

Similarly, if the same assertion holds with C^∞ replaced by real analytic, then P is said to be *analytically hypoelliptic*.

Note that some authors use "hypoelliptic" to mean "analytically hypoelliptic." Hence, if it is not clear from context, it is best to specify the regularity when using the term. For example, C^∞-hypoelliptic instead of just hypoelliptic.

References

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