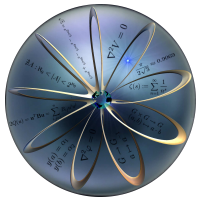

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solution of the Levi problem

Canonical name	SolutionOfTheLeviProblem
Date of creation	2013-03-22 14:31:11
Last modified on	2013-03-22 14:31:11
Owner	jirka (4157)
Last modified by	jirka (4157)
Numerical id	6
Author	jirka (4157)
Entry type	Theorem
Classification	msc 32T05
Classification	msc 32E40
Related topic	Pseudoconvex
Related topic	DomainOfHolomorphy
Defines	Levi problem

The *Levi problem* is the problem of characterizing domains of holomorphy by a local condition on the boundary that does not involve holomorphic functions themselves. This condition turned out to be pseudoconvexity.

Theorem. *An open set $G \subset \mathbb{C}^n$ is a domain of holomorphy if and only if G is pseudoconvex.*

The forward direction (domain of holomorphy implies pseudoconvexity) is not hard to prove and was known for a long time. The opposite direction is really what's called the solution to the Levi problem.

References

[1] Steven G. Krantz. , AMS Chelsea Publishing, Providence, Rhode Island, 1992.