

**Bergamasco, A. P.; Mendoza, G. A.; Zani, S.**  
**On global hypoellipticity.** (English) Zbl 1387.58037  
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Summary: We consider a first order linear partial differential operator of principal type on a closed connected orientable two-dimensional manifold sending sections of one complex line bundle to sections of another. We prove that the assumption of global hypoellipticity of the operator implies a relation between the degrees of the line bundles and the Euler characteristic of the manifold.

**MSC:**

**58J99** Partial differential equations on manifolds; differential operators  
**35H10** Hypoelliptic equations  
**35B65** Smoothness and regularity of solutions to PDEs  
**35F05** Linear first-order PDEs  
**57R22** Topology of vector bundles and fiber bundles

Cited in 1 Document

**Keywords:**

global hypoellipticity; global solvability; line bundles

**Full Text:** [DOI](#)

**References:**

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