

**Mongodi, Samuele; Saracco, Alberto**

**Non compact boundaries of complex analytic varieties in Hilbert spaces.** (English)

Zbl 1320.32041

Complex Manifolds 1, 34-44 (2014).

Summary: We treat the boundary problem for complex varieties with isolated singularities, of complex dimension greater than or equal to 3, non necessarily compact, which are contained in strongly convex, open subsets of a complex Hilbert space  $H$ . We deal with the problem by cutting with a family of complex hyperplanes and applying the already known result for the compact case.

**MSC:**

32V15 CR manifolds as boundaries of domains

58B12 Questions of holomorphy and infinite-dimensional manifolds

Cited in 1 Document

**Keywords:**

boundary problem for complex manifolds; strongly convex subsets of Hilbert spaces

**Full Text:** DOI arXiv

**References:**

- [1] L. Ambrosio, B. Kirchheim, Currents in metric spaces, *Acta Math.*, 185 1 (2000), 1-80. · Zbl 0984.49025
- [2] L. Ambrosio, B. Kirchheim, Rectifiable sets in metric and Banach spaces, *Math. Ann.*, 318 3 (2000), 527-555. · Zbl 0966.28002
- [3] V. Aurich, Bounded analytic sets in Banach spaces, *Ann. Inst. Fourier*, 36 4 (1986), 229-243. · Zbl 0591.46005
- [4] G. Della Sala, Geometric properties of non-compact CR manifolds, *Tesi 14, Edizioni della Normale, Pisa* (2009), 103+xv. · Zbl 1200.32022
- [5] G. Della Sala, A. Saracco, Non-compact boundaries of complex analytic varieties, *Int. J. Math.* 18 2 (2007), 203-218. · Zbl 1140.32025
- [6] G. Della Sala, A. Saracco, Semi-global extension of maximally complex submanifolds, *Bull. Aust. Math. Soc.* 84 (2011), 458-474. · Zbl 1239.32028
- [7] T.-C. Dinh, Conjecture de Globevnik-Stout et théorème de Morera pur une chaîne holomorphe, *Ann. Fac. Sci. Toulouse Math.* 8 (1999) 235-257. · Zbl 0959.32020
- [8] P. Dolbeault, G. Henkin, Surfaces de Riemann de bord donné dans  $\mathbb{C}P^n$ , in *Contributions to complex analysis and analytic geometry, Aspects Math.* (Vieweg, Braunschweig, 1994), pp. 163-187. · Zbl 0821.32008
- [9] P. Dolbeault, G. Henkin, Chaînes holomorphes de bord donné dans  $\mathbb{C}P^n$ , *Bull. Soc. Math. France* 125 (1997) 383-445. · Zbl 0942.32007
- [10] M. P. Gambaryan, Regularity condition for complex films, *Uspekhi Mat. Nauk* 40 (1985) 203-204. · Zbl 0576.32016
- [11] F. R. Harvey, H. B. Lawson Jr., On boundaries of complex analytic varieties. I, *Ann. of Math.* (2) 102 (1975), 223-290. · Zbl 0317.32017
- [12] F. R. Harvey, H. B. Lawson, Jr., On boundaries of complex analytic varieties. II, *Ann. of Math.* 106 (1977) 213-238. · Zbl 0361.32010
- [13] F. R. Harvey, H. B. Lawson, Jr., Addendum to Theorem 10.4 in "Boundaries of analytic varieties",
- [14] (2000).
- [15] H. Lewy, On the local character of the solutions of an atypical linear differential equation in three variables and a related theorem for regular functions of two complex variables, *Ann. of Math.* 64 (1956) 514-522. · Zbl 0074.06204
- [16] S. Mongodi, Some applications of metric currents to complex analysis, *Man. Math.* 141 (2013) 363-390. · Zbl 1267.32038
- [17] S. Mongodi, Positive metric currents and holomorphic chains in Hilbert spaces, · Zbl 1332.32015
- [18] , to appear in *Rev. Mat. Iberoam.* 31 (2015).
- [19] G. Ruget, A propos des cycles analytiques de dimension infinie, *Inv. Math.* 8 (1969) 267-312. · Zbl 0188.25102
- [20] A. Saracco, Extension problems in complex and CR-geometry, *Tesi 9, Edizioni della Normale, Pisa* (2008), 153+xiv. · Zbl 1165.32001
- [21] G. Stolzenberg, Uniform approximation on smooth curves, *Acta Math.* 115 (1966) 185-198. · Zbl 0143.30005

[22] J. Wermer, The hull of a curve in  $C_n$ , *Ann. of Math.* 68 (1958) 550-561. · [Zbl 0084.33402](#)

[23] R. Williamson, L. Janos, Constructing metrics with the Heine-Borel property, *Proc. A.M.S.* 100 3 (1987), 567-573. · [Zbl 0626.54035](#)

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.