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Convergence of holomorphic chains. (English) Zbl 0873.32005
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A holomorphic p -chain in an open subset Ω of \mathbb{C}^n is a formal locally finite sum $Z = \sum_{j \in J} k_j Z_j$ where Z_j are pairwise distinct irreducible analytic subsets of Ω of pure dimension p and $k_j \in \mathbb{Z} \setminus \{0\}$ for $j \in J$. The set $\mathcal{G}^p(\Omega)$ of holomorphic p -chains in Ω is endowed with the structure of a free \mathbb{Z} -module.

The main aim of this note is to define a topology on $\mathcal{G}^p(\Omega)$ and to study some properties of this topological space. The result of this construction is second-countable, metrizable, and convergence in it coincides with the one defined in *E. M. Chirka* [‘Complex analytic sets’, Kluwer Acad. Publishers (1989; [Zbl 0683.32002](#))]. The topology constructed here is useful in studying the intersections of analytic sets [*P. Tworzewski*, *Ann. Polon. Math.* 62, No. 2, 177-191 (1995)].

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MSC:

- [32B15](#) Analytic subsets of affine space
- [32C25](#) Analytic subsets and submanifolds
- [32C30](#) Integration on analytic sets and spaces, currents

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[holomorphic chains](#); [currents](#); [convergence of chains](#)

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