

Bases in spaces of analytic functions and applications

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$A(D)$ is the space of all functions analytic in an open subset D in a Stein manifold Ω with the topology of locally uniform convergence in D . For an arbitrary set $E \subset \Omega$, $A(E)$ is a set of all analytic germs on E considered with the locally convex topology of the inductive limit:

$$A(E) = \limind_{G \in \mathcal{O}(E)} A(G),$$

where $\mathcal{O}(E)$ is the set of all open neighborhoods of E .

We are going to discuss the following topics:

- Existence of bases in those spaces
- Their construction and structure
- Common basis for a pluriregular condenser
- Isomorphic classification of spaces $A(D)$
- Applications to approximation and extension of analytic functions (Bernstein-Walsh Theorem, bounded approximation, widths asymptotics, separate analyticity etc.)