

# COMPLETE HOLOMORPHIC VECTOR FIELDS

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We will discuss properties of complete holomorphic vector fields, mainly in  $\mathbb{C}^n$ . For that purpose we will recall some facts about flows and complete vector fields. The problem of approximation of an arbitrary vector field by complete ones will be analysed. We will show that some automorphisms of  $\mathbb{C}^n$  can not be a time one map of a flow associated to any complete holomorphic vector field. Finally, we will investigate the question whether a given vector field is complete or not.

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