

# compactification of $\mathbb{C}^n$ and Reeb dynamics

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Classify compactification of  $\mathbb{C}^n$   $(X, B)$  such that  $X \setminus B \cong \mathbb{C}^n$  such that  $b_2(X) = 1$

1.  $n = 1, 2, (\mathbb{P}^n, \mathbb{P}^{n-1})$
2. for  $n \geq 3$ ,  $(\mathbb{P}^n, \mathbb{P}^{n-1}), (Q_n \subset \mathbb{P}^{n+1}, Q_n \cap H)$
3.  $n = 3$  if  $D$  smooth (called smooth compactification),  $X$  not fano, then  $(\mathbb{P}^3, \mathbb{P}^2)$
4. true for Kahler assumption.
  - proved for  $n \leq 6$  by Fujita
  - short proof for  $n \not\equiv 3 \pmod{4}$  by Li-Peternell
  - implied by  $D \cong \mathbb{P}^{n-1}$  and  $\leftrightarrow c_1(D) = n$