

# HOLOMORPHIC AUTOMORPHISMS OF $\mathbb{C}^n$

FRANK KUTZSCHEBAUCH MID SWEDEN UNIVERSITY, TFM  
S-851 70 SUNDSVALL, SWEDEN

## 1. ABSTRACT

The group of holomorphic automorphisms of  $\mathbb{C}$  is a Lie group, the group of affine automorphisms. For  $n > 2$  the group of holomorphic automorphisms of  $\mathbb{C}^n$  is infinite dimensional and in general not well understood. An intensive research on this group was initiated in the end of the 80's by the ground breaking work of E. Andersen and L. Lempert. We sketch the main idea's of the Andersen-Lempert theory and give some results on the following topics (mainly due to the speaker and coauthors):

- embeddings of Stein manifolds into  $\mathbb{C}^n$
- compact Lie group actions on  $\mathbb{C}^n$

Also we will point out some open problems which seem to be important for further understanding of the group under consideration.

*E-mail address:* `Frank.Kutzschebauch@mh.se`