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Some remarks on complex Lie groups. (English) Zbl 0957.32010
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Two main results are shown in this paper. First it is shown that there exists a complete Kähler metric on any complex Lie group. Second one obtains a plurisubharmonic exhaustion function on any complex Lie group as follows. Let k the real Lie algebra of a maximal compact real Lie subgroup K of a complex Lie group G . Put $q := \dim_{\mathbb{C}} k \cap \sqrt{-1}k$. Then one obtains a plurisubharmonic, strongly $(q+1)$ -pseudoconvex – in the sense of Andreotti-Grauert – and K -invariant exhaustion function on G , using an integral method with respect to Haar measure on G .

Reviewer: [H.Kazama \(Fukuoka\)](#)

MSC:

32M05 Complex Lie groups, group actions on complex spaces
32U10 Plurisubharmonic exhaustion functions
32F10 q -convexity, q -concavity

Cited in 1 Document

Keywords:

[complete Kähler metric](#); [complex Lie group](#); [plurisubharmonic exhaustion function](#)

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