

## The classification of the real primitive infinite Lie algebras<sup>\*)</sup>

By

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### Introduction

In his paper [2] in 1909, É. Cartan made a great contribution to the classification of the simple infinite pseudo-groups in the complex analytic category. Since simple pseudo-groups are to be determined by their representations as primitive ones, he set himself to classify the primitive infinite pseudo-groups. He first classified the irreducible infinite pseudo-groups and then proceeded to the determination of the primitive infinite pseudo-groups which are not irreducible. His classification, however, is not a satisfactory one: It is based on the case-by-case analysis and is not presented in detail; In the properly primitive case, there are some serious gaps in his reasoning, as is pointed out by several mathematicians.

Recently Kobayashi and Nagano [5] gave a complete and systematic proof of the classification of the irreducible infinite pseudo-groups, and Guillemin, Quillen and Sternberg [3] completed the Cartan's classification in the properly primitive case.

As to the primitive infinite pseudo-groups in the real analytic category, Kobayashi and Nagano [5] also pointed out that the irreducible ones can be classified by using the result of Matsushima [6].

The main purpose of the present paper is to classify the primitive infinite pseudo-groups in the real analytic category or rather the cor-

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