The Hong Kong University of Science and Technology

Department of Mathematics

PhD THESIS EXAMINATION

The Symmetry Regularization of the MICZ-Kepler Problem

By

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ABSTRACT

It is shown that the negative-energy and positive-energy phase spaces of MICZ-Kepler problems can be symplectically embedded as dense open subsets into certain nilpotent and elliptic co-adjoint orbits of (anti-)de Sitter groups. Specifically, these elliptic orbits are parametrized by the non-zero magnetic charge and they degenerate to the nilpotent orbits of their respective symmetries as the charge vanishes. Moreover, this regularization provides a unified framework that incorporates various symmetries arising from MICZ-Kepler problems.

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Time : 3:00 pm

Venue : Room 4472 (Lifts 25/26)

***Thesis Examination Committee*:**

Chairman	**:**	**Prof. Jing WANG, ISOM/HKUST**
Thesis Supervisor	**:**	**Prof. Guowu MENG, MATH/HKUST**
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External Examiner	**:**	**Prof. Jingsong HE, Institute for Advanced Study /Shenzhen University**

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The student's thesis is now being displayed on the reception counter in the General Administration Office (Room 3461).