

Noether-Mei Symmetry of Mechanical System in Phase Space

FANG Jian-Hui , WANG Peng, and DING Ning

College of Physical Science and Technology, China University of Petroleum, Dongying 257061, China

(Received: 2005-8-25; Revised:)

Abstract: In this paper, a new kind of symmetry and its conserved quantities of a mechanical system in phase space are studied. The definition of this new symmetry, i.e., a Noether-Mei symmetry, is presented, and the criterion of this symmetry is also given. The Noether conserved quantity and the Mei conserved quantity deduced from the Noether-Mei symmetry of the system are obtained. Finally, two examples are given to illustrate the application of the results.

PACS: 11.30.-j, 45.05.+x

Key words: Noether-Mei symmetry, conserved quantity, mechanical system, phase space

[\[Full text: PDF\]](#)

Close