

Nonlinear Resonance and Halo Formation Induced by Space Charge

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Abstract : The relationship between the nonlinear resonance and halo formation induced by space charge has been studied by means of the particle-core model in this paper. Using the Poincare surface-of-section technique, an analysis of a particle motion in the phase plane has been presented. The range of the nonlinear resonance versus space charge effects, and the space charge thresholds of halo formation excited by nonlinear resonance are derived. Some numerical results are also given.

Key words : nonlinear resonance; halo formation; Poincare surface-of-section method; space charge thresholds

核物理中的基本概念和思想(第2版)

Basic Ideas and Concepts in Nuclear Physics

作者: K. Heyde。1999年美国物理学会出版。

本书是经过修订供核物理专业大学生和研究生使用的教科书。与第一版相比,书中讨论的内容更为广泛,而且重点介绍了亚原子物理基础研究中的进展情况,但基本框架没有改动。此外,作者更加强调了核物理领域中的统一性,即核科学并非一门孤立的学科,它包含不同科学范畴的许多基本要素,这些范畴包括粒子物理学、天体物理学和基础量子力学等。

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