云南大学学报(自然科学版)
JOURNAL OF YUNNAN UNIVERSITY(NATURAL SCIENCES)
中文核心期刊
中国科技核心期刊



云南大学学报(自然科学版) » 2003, Vol. » Issue (1): 33-36 DOI:



# 用Hammerling交换势计算碱金属原子高激发态能级

赵新闻[1], 李毓成[2]

1. 中南大学, 物理科学与技术学院, 湖南, 长沙, 410083;
2. 辽宁大学, 物理系, 辽宁, 沈阳, 110036

# Calculation of energy levels of alkali-metal-atoms highly excited states by using Hammerling exchange potential

ZHAO Xin wen[1], LI Yu cheng [2]

1. College of Physics Science and Technology, Centralsouth University, Changsha 410083, China;
2. Department of Physics, Liaoning University, Shenyang 110036, China

- 摘要
- 参考文献
- 相关文章

全文: PDF (198 KB) HTML ( KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 考虑了碱金属原子高激发态价电子与原子实电子coulomb相互作用、交换相互作用以及极化相互作用(长程关联效应),计算了碱金属原子Li,Na,K高激发态($6 \leq N \leq 15, l \leq 2$)波函数及能级.计算结果表明:交换势取为GKS势时,能级计算值比实验值偏低;取为hammerling势时,计算值与实验值符合很好.

关键词: 高激发态 $X_\alpha$法 hammerling交换势

Abstract: Considering the electron coulomb interaction and exchange interaction and polarization interaction (electron correlation effect)between the highly excited state electron of the alkali metal atom and the ion core electrons,we calculated the wave function and energy levels of alkali metal atom Li,Na,K highly excited states($6 \leqslant N \leqslant 15, l \leqslant 2$).The calculated results indicate that our energy levels values are lower than experimental data when the highly excited states exchange potential is replaced by GKS potential;If the highly excited states exchange potential is replaced by the hammerling potential our theoretical results are in good agreement with the experiment.

Key words: highly excited state $X_\alpha$ method hammerling exchange potential

收稿日期: 2002-09-18;

服务
- 把本文推荐给朋友
- 加入我的书架
- 加入引用管理器
- E-mail Alert
- RSS

作者相关文章
- 赵新闻
- 李毓成

引用本文:

赵新闻,李毓成. 用Hammerling交换势计算碱金属原子高激发态能级[J]. 云南大学学报(自然科学版), 2003, (1): 33-36.

ZHAO Xin wen,LI Yu cheng. Calculation of energy levels of alkali-metal-atoms highly excited states by using Hammerling exchange potential[J]. , 2003, (1): 33-36.

没有本文参考文献

没有找到本文相关文献

编辑出版：云南大学学报编辑部 (昆明市翠湖北路2号, 650091)
电话：0871-5033829(传真) 5031498 5031662 E-mail: yndxxb@ynu.edu.cn yndxxb@163.com