乞掲示

理化学研究所原子核グループコロキウム　*2003. 12. 22*

講師 ： Prof. Adrian Gelberg

(Institut für Kernphysik der Universität zu Köln, Germany)

題目 ： Gamow-Teller decay of the T=1 nucleus ^{46}Cr

∗ The seminar will be given in *English.*

日時 ： 2003年 12月 22日 (Mon.)　15:30 –

場所 ： RIKEN Main Bldg. 4F Seminar Room

Abstract

Even-even nuclei with $|N-Z|=2$ ($T=1$) and $A=4n+2$ (n-integer) decay by favoured allowed Gamow-Teller (GT) transitions to $I^{\pi}=1^{+}, T=0$ states in odd-odd, N=Z nuclei. Contrary to expectations, no GT transition was found so far in experiments on the beta decay of ^{46}Cr to the N=Z nucleus ^{46}V. An experiment was carried out at RIPS (RIKEN). A ^{46}Cr beam was produced by the fragmentation of ^{50}Cr on a Be target. In order to measure the half-life, a pulsed beam was used. The ^{46}Cr β-rays were detected by plastic scintillators. Gamma-rays in coincidence with β-rays were detected by Ge detectors. The gamma peak at the energy of the 1_1^+ state in ^{46}V was observed. This is the first observation of the GT decay of ^{46}Cr. The GT strength has been deduced, and compared with shell model calculations.

∗ Host researcher : N. Aoi (RIKEN)

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セミナー係

RIBS　大西哲哉　RIBS　杉本聡

セミナー係連絡先

(email)　seminar@rarfaxp.riken.go.jp

(FAX)　048–462–4689

(WWW)　http://rarfaxp.riken.go.jp/~seminar/