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Beta decays in mass 8 system and test of conserved vector current hypothesis T. SUMIKAMA, RIKEN, T. NAGATOMO, M. OGURA, T. IWAKOSHI, Y. NAKASHIMA, H. FUJIWARA, K. MATSUTA, Osaka University, T. MINAMISONO, Fukui University of Technology, M. FUKUDA, M. MIHARA, Osaka University, K. MINAMISONO, Michigan State University, T. YAMAGUCHI, Saitama University — We observed the alignment correlation terms in the β -ray angular distribution for ^8Li and ^8B . The alignment correlation terms are useful probes to test the conserved vector current (CVC) hypothesis or the G -parity conservation in the β -decay process. The experiment was performed using the Van de Graaff accelerator at Osaka University. The pure nuclear-spin alignments were successfully produced by applying the β -NMR techniques and the alignment correlation terms were extracted from the β -ray angular distribution as a function of the β -ray energy. Under the assumption of the G -parity conservation, not only the weak magnetism (WM) but also the second-forbidden matrix element (M_2) of the vector current was obtained both from the present alignment correlation terms and the previous β - α angular correlation terms. The WM and M_2 are related by the CVC hypothesis to the M1 and E2 analog γ -decays from the isobaric analog state of ^8Be . It is found that the M_2 is inconsistent with the previously observed E2 γ -decay.

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