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Algebraic N- α model (applications for ^{12}C) TOORU YOSHIDA, CNS, University of Tokyo, KIYOSHI KATO, Hokkaido University — Algebraic nuclear models have successively applied for various mass regions. Its semi-microscopic treatment has been applied for light nuclei like ^{12}C where the Pauli principle between each cluster is completely taken into account. However, the method does not have been used directly for decay information. Therefore, we extend this algebraic method and investigate the structure of ^{12}C . We use the model space expanded by Pauli allowed states (PAS) [H. Horiuchi, PTP58 204 (1977)] with orthogonality condition model (OCM). One advantage of this method is that we can generate infinite number of PAS by operating $Sp2R_z$ generators [K. Kato et al., PTP76 75 (1985)] from its band head state. Therefore, the group theoretical relation for each state becomes clear. We can see that the large electromagnetic transition strength appears in the same band states. This affects total expectation values, which we calculated by using truncated model space of SU3. In order to investigate their decay information, we use complex scaling method (CSM). Firstly, we check consistency of PAS method and CSM for alpha-alpha cluster system. As a next step, we combine this PAS method with CSM for ^{12}C .

Tooru Yoshida
CNS, University of Tokyo

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