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Comment on top-on-top mechanism in triaxial strongly deformed even mass nuclei KOSAI TANABE, RIKEN, Nishina Center, Saitama, 351-0198, Japan, KAZUKO SUGAWARA-TANABE, Otsuma Women's University, Tama, Tokyo, 206-8540, Japan — We have derived the algebraic solution to the particle-rotor model with high j nucleon coupled to a triaxially deformed core, $H = H_{\rm rot} + H_{\rm sp}$. The rotating core top with $\vec{R} = \vec{I} - \vec{j}$ and the single-particle top with $\vec{j}$, are strongly correlating each other. We call this mechanism as top-on-top mechanism, where the Coriolis term, $\vec{I} \cdot \vec{j}$ in $H_{\rm rot}$, is explicitly taken into account, giving a big difference from the wobbling model. The algebraic solution to the top-on-top mechanism clarifies not only the energy level scheme, but also gives the approximate selection rules in the strength of transitions among bands. If the single-particle angular momentum j is assumed to be the sum of two angular momenta as $j = j_1 + j_2$ and the value of integer j keeps constant over some range of I, then the algebraic solution is easily extended to the even-even nucleus with alignment of integer j. Although several candidates of TSD bands are observed in Hf isotopes, no linking transitions between (0,0) and (1,0) are found. The rough estimation of the transition rates give a factor of $(\frac{I-j}{I})^3$ both in $B(E2)$ and $B(M1)$ values for the transitions with $\Delta I = 1$ among the favored (0,0) and the unfavored (1,0) bands. The value of $I - j$ is smaller for even-A case than odd-A case, which makes the observation of the other partner band difficult.

Kosai Tanabe
RIKEN, Nishina Center,Saitama,351-0198,Japan

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