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Microscopic Mechanism of the ω Variation in Moments of Inertia for the Yrast Superdeformed Bands ^{194}Tl(1a,1b)

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Abstract: The variation in moments of inertia ($J^{(1)}$ and $J^{(2)}$) with rotational frequency for the superdeformed bands in odd-odd nuclei, ^{194}Tl(1a,1b), is investigated by using the particle-number conserving method for treating the pairing interaction (monopole and quadrupole). The observed variations of $J^{(1)}$ and $J^{(2)}$ with ω are reproduced quite well in the calculation and the contributions from each major shell are clearly displayed.

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Key words: particle-number conserving method, superdeformed band, dynamic and kinematic moments of inertia, cranked Nilsson orbital

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