# Test of tetrahedral symmetry for heavy and superheavy nuclei

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In the recent years interesting suggestion have been made that nucleus, like many other quantum objects, can have a tetrahedral shape at the ground state [1, 2, 3, 4]. This symmetry is connected at the first order with nonaxial octupole deformation parameter $a_{32}$. In order to check whether or not the tetrahedral symmetry plays important role in heaviest nuclei macro-micro method has been used. The essential point of our present investigation consists, the kind and dimension of the deformation space which is used to describe a large variety of nuclear shapes. To calculate Potential Energy Surfaces (PES) 12-dimensional deformation space has been used. Calculations has been performed simultaneously in all degrees of freedom (without any subdivision of relevant and irrelevant deformation subspaces). Conclusions will be drawn from presented calculations concern the problem of possible existence of tetrahedral global minimum in superheavy nuclei.

# References

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