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Shell Model Calculation of Po212

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Abstract

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Shell Model Calculation of Po^{212} . * Norman K. Glendenning and Kichinosuke Harada[†],
Lawrence Radiation Laboratory, Berkeley.--So far there are a few shell model calculations¹⁻³ on Po^{212} , but unfortunately their results are more or less different from each other, owing to the use of different residual forces. A more realistic shell model calculation based on Glendenning's method is done for the lower lying levels and the high-spin isomer of Po^{212} . In this calculation we use the residual p-p, n-n and p-n interactions which are so determined as to reproduce the experimental Po^{210} , Pb^{210} and Bi^{210} spectra, and adopt different size parameters for proton- and neutron-oscillator potentials. The results will be discussed and compared with those of the previous works.

* Work performed under the auspices of the U. S. Atomic Energy Commission.

[†] On leave of absence from Japan Atomic Energy Research Institute.

¹ I. M. Band, L. A. Sliv and Yu, I. Kharitonov, Nuclear Physics 35, 136 (1962).

² N. K. Glendenning, Phys. Rev. 127, 923 (1962).

³ K. Harada, JAERI-Memo No. 1183 (1963).