Nuclear Spin Cut-off Parameter Deduced from Average Level Spacing[1] A.N. BEHKAMI, Physics Department of Fars Science and Research Center, Islamic Azad University, MEHRDAD GHOLAMI, Chemistry Department of Marvdasht Islamic Azad University — Nuclear spin cut-off parameters have been investigated for a large range of nuclear mass from the knowledge of nuclear level density at neutron binding energy, B_n and average S-wave neutron spacing $<D_{1/2}^+>$ which is $\sigma^2 = 1/2\rho(B_n)$ $<D_{1/2}^+>$. Nuclear level densities at neutron binding energy have been computed using microscopic approach. The average S-wave level spacing were taken from various compilations. The deduced values of spin cut-off parameters from the above expression have been compared with their corresponding newly published results obtained on the basis of the BCS Hamiltonian. It is found that our results are much lower than their corresponding values obtained on the basis of microscopic calculations. However, it is shown that if the values of the spin cut-off parameter deduced from the average level spacing are multiplied by a factor, F= 0.25Z ((Z/N)+1) , the agreement between the two sets becomes satisfactory. The results from both approaches will be presented and compared. The overall trends obtained from different approaches will be discussed.

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