

## Abstract

Neutron pairing energies of some of the finite nuclei have been calculated to understand how the neutron pairing changes as the neutron and proton numbers change from odd to even values in isotopes. How its value changes for even (N) - even (Z), even (N) - odd (Z), odd (N) - even (Z) and odd (N) - odd (Z) nuclei has been brought out. The values of pairing energies ( Pn ) have been calculated for light nuclei ( $20 \leq A \leq 55$ ), medium nuclei ( $100 \leq A \leq 140$ ) and heavy nuclei ( $190 \leq A \leq 238$ ) and found to lie between:  $-16 \leq Pn \leq +14$  MeV,  $-6 \leq Pn \leq +6$  MeV and  $-5 \leq Pn \leq +5$  MeV respectively. Positive pairing energies only occurred in odd (N) - even (Z) nuclei and this indicated the most stable isotopic nuclei