

Nuclear and Particle Physics - Problem Set 8

Problem 1)

Collect all the information you can find about the deuteron (in our textbook or on the web). Fill out the list of properties below.

Isotopical abundance

Natural occurrence

Z, N, A

Mass

Binding energy

Radius

Spin

Parity

Total Isospin

Magnetic moment

Quadrupole moment

Excited states

Problem 2)

Are there any bound nuclei made of just two protons? Just two neutrons? Why (not)? (You can look for explanations in our book, other literature, and the web, but you have to cite your sources and formulate your answer in your own words).