

Short Test Wednesday 6.9.2017

- Electromagnetic radiation with a wavelength of 500 nm corresponds to:
 microwave visible light ultraviolet X-rays
- The typical distance between atoms in a solid amounts to:
 10 nm 1 nm 0.1 nm 0.01 nm
- An atomic nucleus has a typical size of:
 1 Å 0.1 nm 1 pm 10 fm
- The typical wavelength of thermal neutrons is:
 10 nm 1 nm 0.1 nm 0.01 nm
- Which type of radiation would you use to determine the positions of hydrogen atoms in a given compound?
 X-rays neutrons
- Which type of radiation would you use to distinguish iron and manganese atoms in a given compound?
 X-rays neutrons
- Which type of radiation would you use to determine the charge density distribution in a solid?
 X-rays neutrons
- How many neutrons per second impact on a sample with typical lateral dimensions of 1x1 cm in a typical neutron scattering experiment?
 10^3 10^7 10^{12} 10^{16}