

Problem 2.

A unit cell of a crystal of sodium chloride (common salt- NaCl) is a cube with the edge length $a = 5.610^{-10}$ m (Fig.2). The black circles in the figure stand for the position of sodium atoms whereas the white ones are chlorine atoms. The entire crystal of common salt turns out to be a repetition of such unit cells. The relative atomic mass of sodium is 23 and that of chlorine is 35,5. The density of the common salt $\rho = 2.2210^3$ kg/m³. Find the mass of a hydrogen atom.

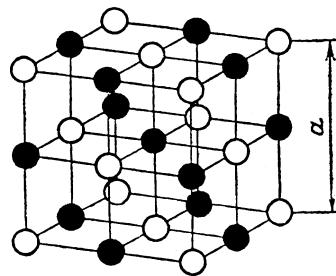


Fig. 2