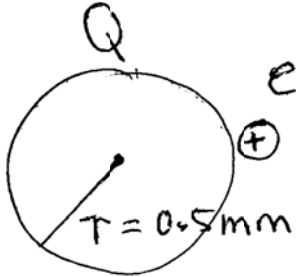


A glass sphere of diameter 1.00 mm has been charged to + 100 nC. A proton is fired from a large distance toward the sphere. What initial speed must the proton have to just reach the surface of the sphere?



$$\Delta K = -q \Delta V$$

$$K_f - K_i = -e \left(\frac{kQ}{r} - \frac{kQ}{\infty} \right)$$

$$0 - \frac{1}{2} m v_i^2 = - \frac{k e Q}{r}$$

$$v_i = \sqrt{\frac{2 k e Q}{m r}}$$

$$= \sqrt{\frac{2 (9 \times 10^9) (1.6 \times 10^{-19}) (100 \times 10^{-9})}{1.67 \times 10^{-27} (0.5 \times 10^{-3})}}$$

$$= 1.86 \times 10^7 \text{ m/s}$$

04 Sep	11 Sep	18 Sep	25 Sep	2 Oct	9 Oct	23 Oct	30 Oct	6 Nov	13 Nov	20 Nov	27 Nov	4 Dec	11 Dec	18 Dec
Solutions of the quizzes can be found on the webpage: http://faculty.kfupm.edu.sa/phys/aljalal/phys102.htm														
KFUPM										Phys102-131				