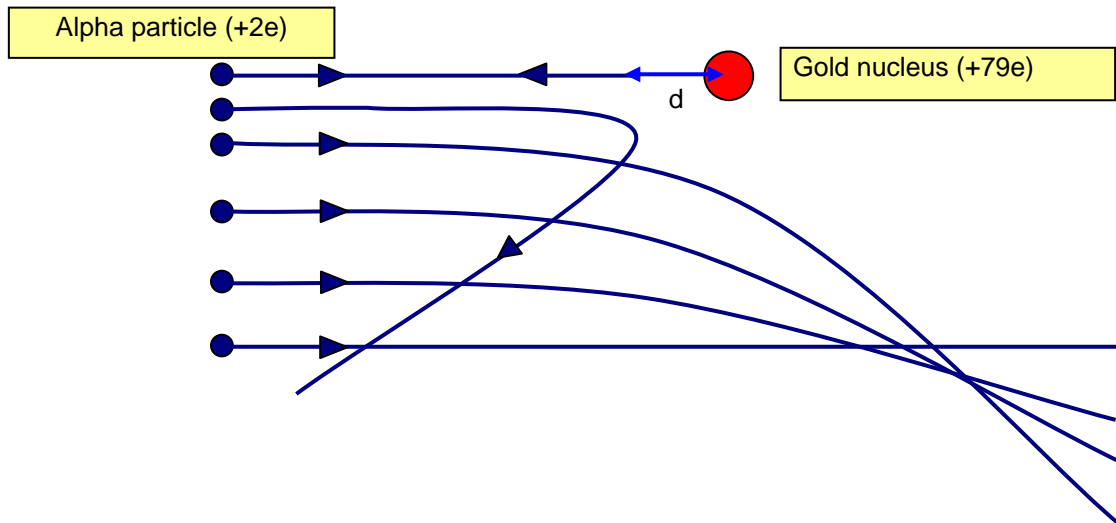


## TAP 522-1: Alpha particle scattering – distance of closest approach



If an alpha particle with a kinetic energy  $E_\alpha$  is fired directly towards a gold nucleus it will feel a repulsion that increases as it gets closer - climbing the potential hill surrounding the nucleus. When all the kinetic energy has been converted to potential energy the alpha particle (charge  $+2e$ ) has reached its distance of closest approach ( $d$ ) and comes to rest at that point

**Practical advice**

The diagram could be used as an OHT and discussed in class

**External Reference**

This activity is taken from Resourceful Physics