

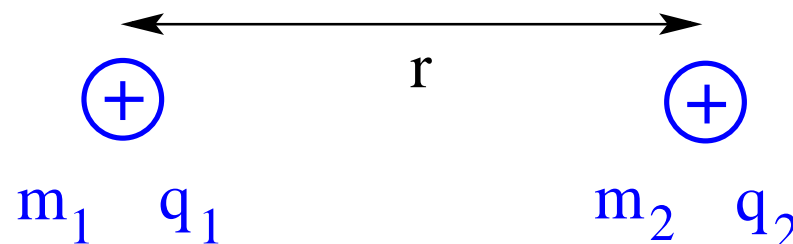
Action and Reaction due to Coulomb Interaction



Two particles with masses m_1, m_2 and charges q_1, q_2 are released from rest a distance r apart.

We consider the following four distinct configurations:

- (a) $m_1 = 1\text{kg}, m_2 = 1\text{kg}, q_1 = 1\text{C}, q_2 = 1\text{C}$
- (b) $m_1 = 1\text{kg}, m_2 = 1\text{kg}, q_1 = 1\text{C}, q_2 = 2\text{C}$
- (c) $m_1 = 1\text{kg}, m_2 = 2\text{kg}, q_1 = 1\text{C}, q_2 = 1\text{C}$
- (d) $m_1 = 1\text{kg}, m_2 = 2\text{kg}, q_1 = 1\text{C}, q_2 = 2\text{C}$



Answer the following questions for each configuration:

- (1) Is the force experienced by particle 1 **smaller than** or **equal to** or **larger than** the force experienced by particle 2?
- (2) Is the acceleration of particle 1 **smaller than** or **equal to** or **larger than** the acceleration of particle 2?