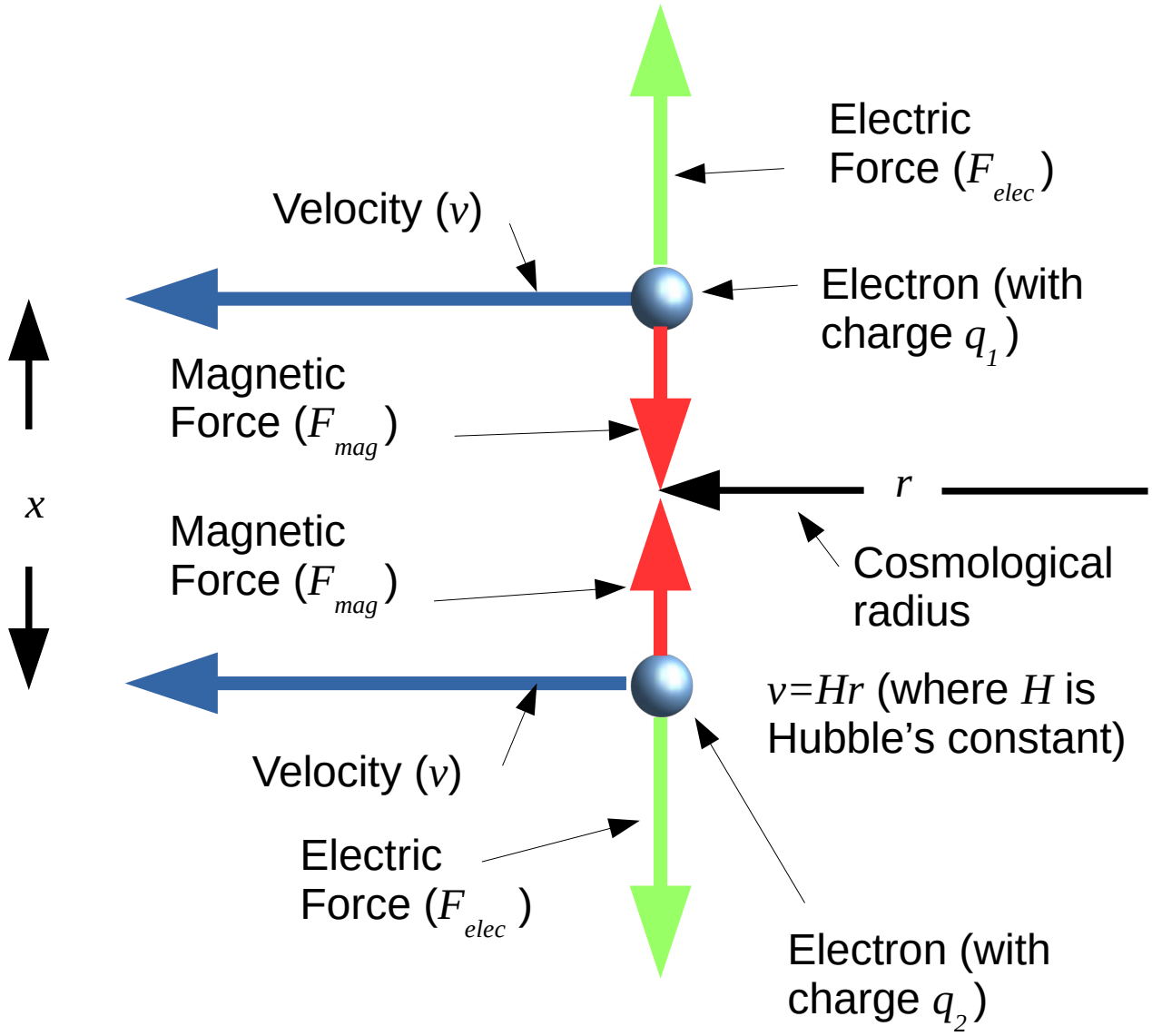
Figure 4. Electric and magnetic forces on two electrons

Electric and magnetic forces on two electrons a distance (x) apart both moving with a velocity (v) and at a distance (r) from a central comoving observer.



$$F_{elec} - F_{mag} = \frac{\left(1-\frac{v^2}{c^2}\right)^{\frac{1}{2}} q_1 \left(1-\frac{v^2}{c^2}\right)^{\frac{1}{2}} q_2}{4\pi\varepsilon x^2}$$

As the velocity (v) approaches the speed of light (c), the resultant force on each electron (F_{elec} - F_{mag}) approaches zero.