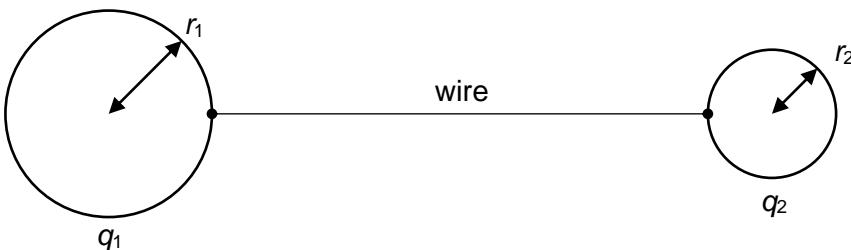


- 18** Two spherical conductors of radii  $r_1$  and  $r_2$  are separated by a distance much greater than the radius of either sphere. The spheres are connected by a conducting wire as shown in the diagram below. The charges on the spheres in equilibrium are  $q_1$  and  $q_2$  respectively.



What is the ratio of the magnitudes of the electric field strengths at the surfaces of the spheres?

**A**  $\left(\frac{r_2}{r_1}\right)^2$

**B**  $\frac{r_2}{r_1}$

**C**  $\frac{q_2 r_2}{q_1 r_1}$

**D**  $\frac{q_1 r_2}{q_2 r_1}$