

## More Flux Integrals

Consider the vector field:

$$\vec{F} = kq \frac{\vec{r}}{r^3}. \quad (1)$$

This describes the electric field due to a charge  $q$  at the origin.

1. Compute the flux of  $\vec{F}$  out of a sphere of radius  $a$  centered at the origin.
2. Compute the flux of  $\vec{F}$  out of a cube of side 2 centered at the origin.