

62. The field due to a sheet of charge is given by Eq. 24-13. Both sheets are horizontal (parallel to the  $xy$  plane), producing vertical fields (parallel to the  $z$  axis). At points above the  $z = 0$  sheet (sheet  $A$ ), its field points upward (towards  $+z$ ); at points above the  $z = 2.0$  sheet (sheet  $B$ ), its field does likewise. However, below the  $z = 2.0$  sheet, its field is oriented downward.

- (a) The magnitude of the net field in the region between the sheets is

$$|\vec{E}| = \frac{\sigma_A}{2\varepsilon_0} - \frac{\sigma_B}{2\varepsilon_0} = 2.8 \times 10^2 \text{ N/C} .$$

- (b) The magnitude of the net field at points above both sheets is

$$|\vec{E}| = \frac{\sigma_A}{2\varepsilon_0} + \frac{\sigma_B}{2\varepsilon_0} = 6.2 \times 10^2 \text{ N/C} .$$