

Does system energy "superpose"?

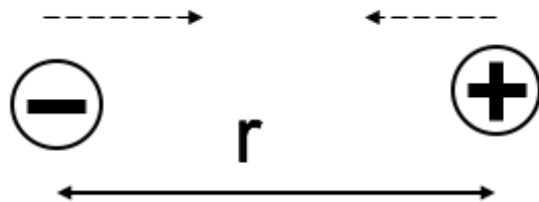
That is, if you have one system of charges with total stored energy W_1 , and a second charge distribution with W_2 ...if you superpose these charge distributions, is the total energy of the new system simply $W_1 + W_2$?

A. Yes

B. No

ANNOUNCEMENTS

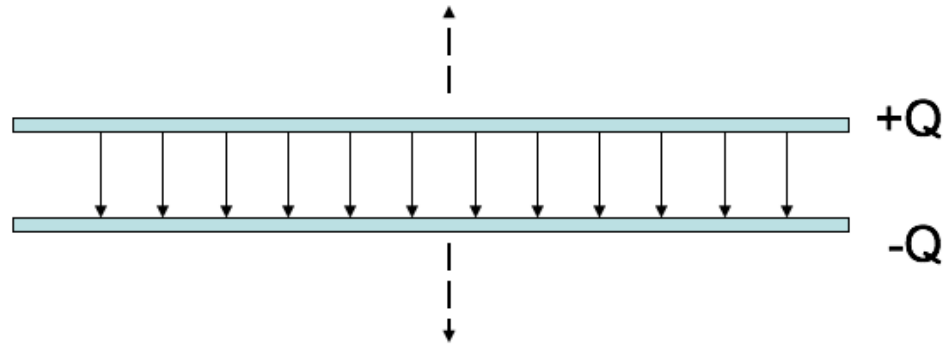
- Homework 5 has a partner problem
 - Review problem that you share with each other
 - Can share on Piazza (for extra credit!)
- Exam 1 is Wednesday (7-9pm in A149 PSS)



Two charges, $+q$ and $-q$, are a distance r apart. As the charges are slowly moved together, the total field energy

$$\frac{\epsilon_0}{2} \int E^2 d\tau$$

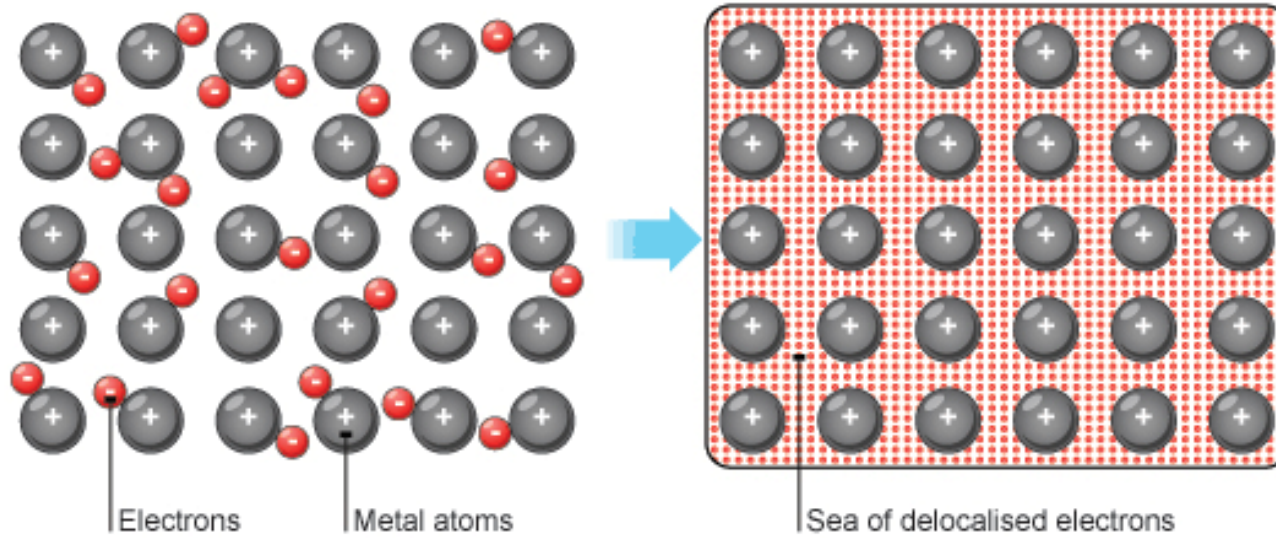
- A. increases
- B. decreases
- C. remains constant



A parallel-plate capacitor has $+Q$ on one plate, $-Q$ on the other. The plates are isolated so the charge Q cannot change. As the plates are pulled apart, the total electrostatic energy stored in the capacitor:

- A. increases
- B. decreases
- C. remains constant.

CONDUCTORS



THE CONDUCTOR PROBLEM

