Lawjay Lee

Lab Partners
- Aaron W.
- Wyatt S.
- Abram J.

Lab: Equipotential Curves & Electric Fields

Course: PHYS-42

Section: M1069

Date: 2024-02-23

Conclusions

The capacitors behaved as we expected them to in the different situations.

In Part 1, when we removed Capacitor 1 from the power supply and connected the positive terminals of the capacitors together, the capacitors shared the same voltage as we expected.

Moreover, the sum of their charges was very close to the charge of Capacitor 1 before they shared charge with a percent difference of 0.0975%, demonstrating the conservation of charge.

In Part 2, we instead charged Capacitor 2 first and got a 10.0% difference between q_{total} and Q_2

In Part 3, we also successfully confirmed conservation of charge when connecting the capacitors in series with a 0.00% difference between q_{total} and Q_{total}

In Part 4, we successfully confirmed that energy was lost when we connected the capacitors in parallel and connected their opposite poles, allowing some of the charge to recombine. This recombination caused some energy to get lost because some charge was lost. The percent difference of $U_{\text{total after}}$ from $U_{\text{total before}}$ was -189%