

PROBLEM SET 11

1. Purcell problem 7.21. Assume that $b_2 \gg a_2$ and $b_2 \gg b_1$.
2. Purcell problem 7.22. Assume that the charge is distributed uniformly around the ring.
3. Purcell problem 7.23
4. Purcell problem 7.29
5. Purcell problem 8.5. For simplicity, if you wish, in parts (a) and (b) you may assume that the battery is connected only until just before the switch is closed.
6. Purcell problem 8.7
7. Purcell problem 8.11
8. Purcell problem 8.16. An infinite L - C ladder of the type studied in this problem is called a “lumped-element delay line”. It is of great practical importance when one needs to delay an analog electrical pulse by a longer time than would be conveniently achieved by using the finite speed ($\approx c$) of propagation in a coaxial cable.