

Exercise set 5: Low loss EELS

Exercise 1, Williams and Carter chapter 38

Do the following problems in the Williams and Carter textbooks:

- Q38.1-5
- Q38.8
- T38.2-4
- T38.9

Exercise 2

1. Make a plot of the phase velocity of light as a function of refractive indexes n between 1 and 10.
2. The critical acceleration voltage is defined as the voltage giving an electron velocity equal to the phase velocity of a material with refractive index n . Make a plot of the critical acceleration voltage as a function of n .