Physics 611

Homework #3

handed out 13 October 2016 due 20 October 2016

1. a) Find the surface resistance for a silver surface working at room temperature with 20 cm wavelength microwaves. (You will have to look up the conductance or resistivity of silver.)

b) What is the actual scale depth of the surface current for the above conditions?

c) If the tangential electric field at the surface is 4,000 V/m, how much resistive heating is there in each square meter of silver surface?

2. Jackson problem 8.1.