

Electromagnetics, Spring 2019

Homework 10

说明:

全用英文作答;

每道题要对所有小问作答, 要给出全部必要的推导过程, 计算题要算出最终的数值结果, 比如开根号之类的;

所有计算出来的结果如果是有单位的物理量, 一定要写明单位;

每题的分数在括号中给出;

可以互相讨论, 也可以上网查, 但是不能抄袭, 也不能找别人代做;

所有的解答必须全部是手写的原件, 不接受扫描件与照片;

有问题就给我发邮件;

5 月 28 日星期二~~上课之前~~交, 如到时未完成, 可以 5 月 30 日星期四~~上课之前~~交, 但是分数会减去 20%。

In textbook book *Fundamentals of Applied Electromagnetics*, 7th edition

2.42 (40 points)

2.43 (10 points)

2.45 (20 points)

2.46 (20 points)

第二部分 Homemade

1. (60 points) If a quarter wave transformer is used to match a load of $3Z_0$ to a transmission line with characteristic impedance of Z_0 at the frequency f_0 , calculate the characteristic impedance of the transformer. Calculate the frequency range (should be around f_0) within which the magnitude of the reflection coefficient on the Z_0 line is less than $1/3$.