EE6506 Computational Electromagnetics: Jan - May 2018, Uday Khankhoje

Assignment 4, 15.04.2018, due 29.04.2018 (at 11:59pm)

1. You can solve this homework individually, or in groups of two (the same as for assignment 3). 2. Make reasonable assumptions, STATE them, and include any references you might have used. 3. Extra points are reserved for neat and systematic presentation of results. 4. Plagiarism $\Rightarrow$ Course fail (this has happened).

1. **Simulating electromagnetic filters via a 1D computational experiment:**
   Repeat the first question of the previous assignment by implementing your own 1-D FDTD. You can use a broadband source to find the resonance(s) in both structures. Then, pick any one resonance and run a narrow band source near the resonance to study it better. You must plot the transmission or reflection spectrum by taking a Fourier transform of the raw fdtd data obtained (i.e. the x-axis must be frequency). Comment on comparisons with the results of your previous simulation of the same structure using FEM. As before, justify all your choices of parameters.