ECE 341 HW 12

P1. Problem **7.2** in Textbook & answer sheet. [**Caution**: The wave travels in the $+y$ direction, not the $+z$ direction.]

P2. Problem **7.4** in Textbook & answer sheet. [**Caution**: The wave travels in the $+x$ direction. Make sure you determine the directions of the fields accordingly.]

P3. Problem **7.18** modified: At each of the listed frequencies [(a) through (d)], determine if the dry soil may be considered a low-loss dielectric (i.e. a "good" but not perfect insulator). At those/that frequency/ies, calculate the propagation constant β and the decay constant α.

Answer: The dry soil may be considered a low-loss dielectric in (d) only. β and α are calculated using equations from the last class note.

P4. Problem **7.21** (Answer in Appendix D of the textbook. Numerical calculations always bear errors. As long as your answer is close enough, say, ~290 m, it is correct.)