

HW#6
Due 3/2/00

1. use the magnetoionic dispersion relation
 $An^4 - Bn^2 + C = 0$
to find the angle of propagation

$$\tan^2 = \frac{-P(n^2 - R)(n^2 - L)}{(Sn^2 - RL)(n^2 - P)}$$

2. Take the infinite mass approximation for the ions, and find the extraordinary mode dispersion for perpendicular propagation. Determine the resonance conditions for this wave.
3. Find the phase velocity of the extraordinary mode of problem 2, and find the frequencies where the phase velocity goes to infinity.
4. Find the direction of the electric field and its polarization for the ordinary mode which propagates perpendicular to the **B** field.