

## Physics 136c, Week 2: Waves in Cold Plasma

(Dated: April 11, 2012; due April 18, 2012)

The maximum number of points you can get for this assignment is **50**, although you could choose to do problems that worth more than 50 points.

This week we discussed some basics of plasma physics, covering Chapter 20 of Blandford and Thorne (BT).

1. **Fluid drifts in a time-dependent plasma.** Exercise 20.3 of BT [15 Points]
2. **Ion Acoustic Waves.** Exercise 20.4 of BT [15 Points]
3. **Dispersion and Faraday rotation of Pulsar pulses.** Exercise 20.6 of BT [15 Points]
4. **Refelection of Short Waves by the Ionosphere.** Exercise 20.8 of BT [15 Points]
5. **The CMA Diagram.** Exercise 20.9 of BT [15 Points]