

1. No hints

2. See slides
of lecture 5

- Assume

$$T_e = T_i = T$$

3. - You may assume a 1D
perturbation

- Linearize continuity eq.
& Fourier transform it
 \Rightarrow expression for \tilde{n}_i

- Plasma approx. & Boltzmann
relation \Rightarrow expr. for n_i

- Fourier transform definition of
electric potential \Rightarrow expr. for \tilde{E}_1

- Linearize ion eq. of motion
& Fourier transform it

- Insert calculated exprs

4. - May assume 1D pert.

- "Linearize..."

= "Linearize & Fourier transf. ..."

- Results from problem 3
might help

- Use inverse Fourier
transf. when appropriate