

**Intermediate Seismology**  
**ESCI 7402**  
**Homework #5**  
**Due: March 16, 2010**  
**SH Wave Downward Continuation**

Given the SH wave displacement  $u_2$  at the free surface (for example, the SH wave from a local earthquake), downward continue the wave field to the halfspace using the propagator matrix technique. Decompose the displacement and stress into up and downgoing SH waves and give a relationship for the amplitude of each wave.

