AME 598t
Prof. J. M. Powers
Homework 10
Due: Thursday, 14 April 2005

Consider the kinetics model for ozone decomposition discussed in previous homeworks.

1. Write the governing equations for ozone under the assumtions that it is inviscid, one-dimensional, calorically perfect, ideal, and compressible. Write the equations in conservative, non-conservative, and characteristic form.

2. For a mixture at rest in a laboratory frame of O, O_2 and O_3 which have identical initial mass fractions and a pressure of 100 kPa and a temperature of 300 K, find the thermodyanic state after the passage of a shock wave at velocity 1000 m/s.