

AME 60636
Prof. J. M. Powers
Homework 11
Due: Monday, 20 November 2006

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

1. Write the governing equations for ozone under the assumptions 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 thermodynamic state after the passage of a shock wave at velocity 1000 m/s .