CO_2 Normal Modes HW Instructions

- Your homework solution should be written out by hand on paper and the Mathematica notebook stapled to it. The written solution should include the items below. The Mathematica notebook should clearly show how you obtained those items.
- Clearly and legibly write out the matrix for the CO₂ molecule, the eigenvalues of the matrix, and the eigenvectors.
- Show that each eigenvector behaves properly with its associated eigenvalue.
- Clearly write out the general solution to the CO₂ problem and its first derivative with respect to time.
- State your initial conditions. See list here.
- Clearly write out the equations the coefficients in the general solution must satisfy.
- Obtain the coefficients for the particular solution in terms of parameters in the initial conditions.