

- (1) The initial coordinates and velocities of the galaxy center are set up for galaxy A and galaxy B exactly as described in Part I. In addition, galaxy A and galaxy B are rotated to produce inclination angles  $i_A, i_B$  and arguments  $\omega_A, \omega_B$  for the pericenter.
- (2) The inclination angles and the arguments of the pericenter are given by one of the following three choices:
  - (a)  $i_A = 15^\circ, i_B = 60^\circ, \omega_A = -90^\circ, \omega_B = -90^\circ,$
  - (b)  $i_A = 25^\circ, i_B = 40^\circ, \omega_A = -90^\circ, \omega_B = -90^\circ,$
  - (c)  $i_A = 25^\circ, i_B = 40^\circ, \omega_A = -30^\circ, \omega_B = 60^\circ.$You will find the definitions of those angles in Toomre and Toomre in Fig.6. The paper is posted in Lecture 14.
- (3) Chose one pair from the following allowed initial data:  $R_{init} = 44,$  or  $R_{init} = 42, R_0 = 2.5,$  or  $R_0 = 3.0.$  This defines twelve combinations. Each student will sign up with the TA for one of the combinations. They all have to be different.
- (4) Generate the corresponding treebodi data file for input to treecode.