Stellar Structure & Evolution

Problem Set 5

Due November 24, 2014

Using
http://www.astro.uni-bonn.de/~izzard/cgi-bin/binary4.cgi
and varying ONLY the "BASIC" and "ORBIT" parameters,

evolve binary stars with

1) q=0.3 and 0.9, and
2) e = 0 and 0.7, and
3) any orbital period or periods you wish to choose, to determine

1) the least massive He and CO white dwarfs, neutron star and black holes that can be made
2) the longest-lived symbiotics, thermally pulsing AGBs and blue stragglers you can make
3) the shortest time required to make a pair of neutron stars
4) the heaviest isotope you can make

Tabulate your results, including the starting conditions and evolutionary timescales and masses of the requested parameters above.