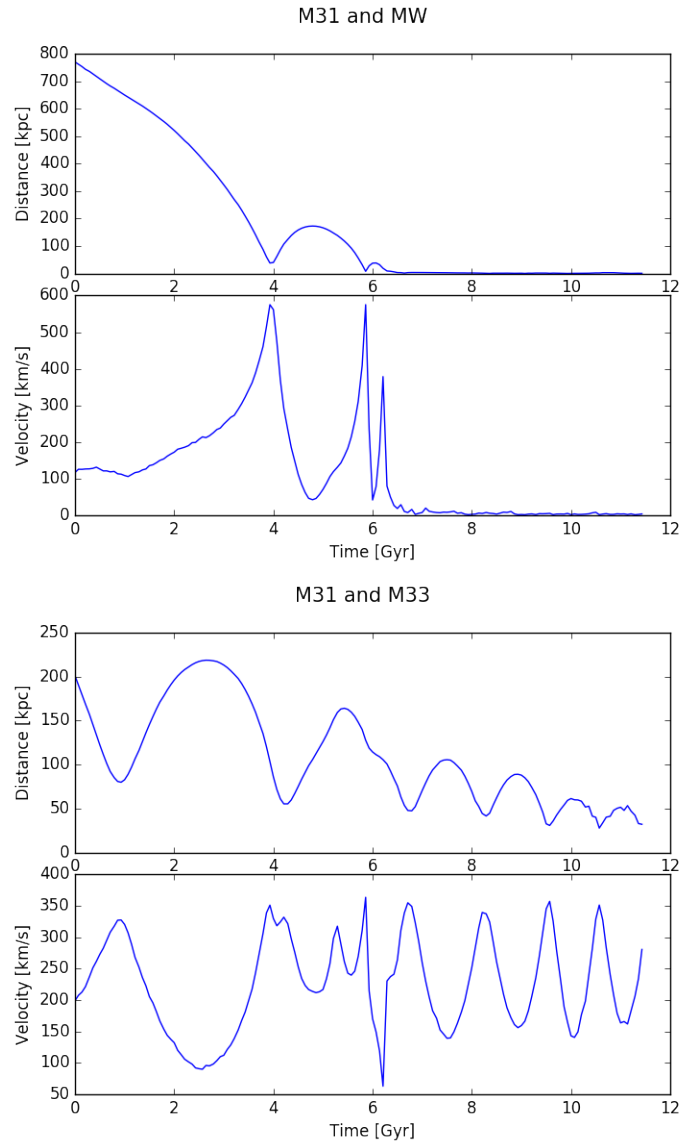


ASTR400B HW6

Andy Henrici

February 2018

1 Output



2 Questions

1. Andromede has 3 close encounters with the Milky Way before they merge.
2. The closer the objects are, the larger the relative velocity.
3. The Milky Way and Andromeda will merge roughly 6.5 Gyr from now. After this point the separation is practically 0.
4. I estimated that the decay looks roughly like $300e^{-0.165t}$. When M33 is at 75 kpc and we say the collision is at 10 kpc then it would take about 12 Gyr to collide.