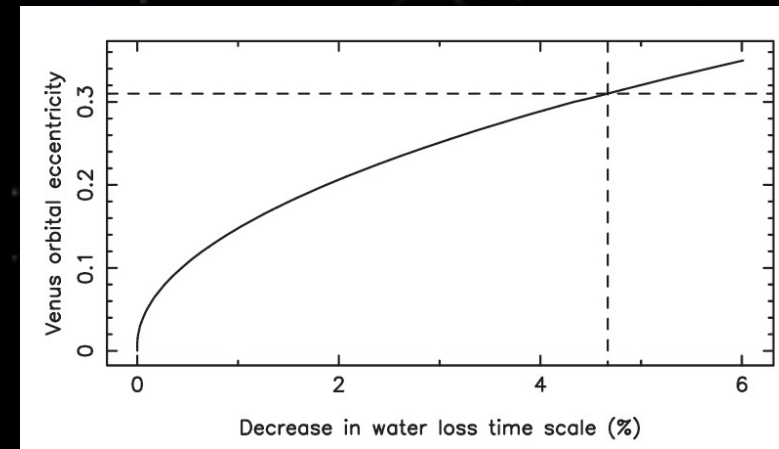
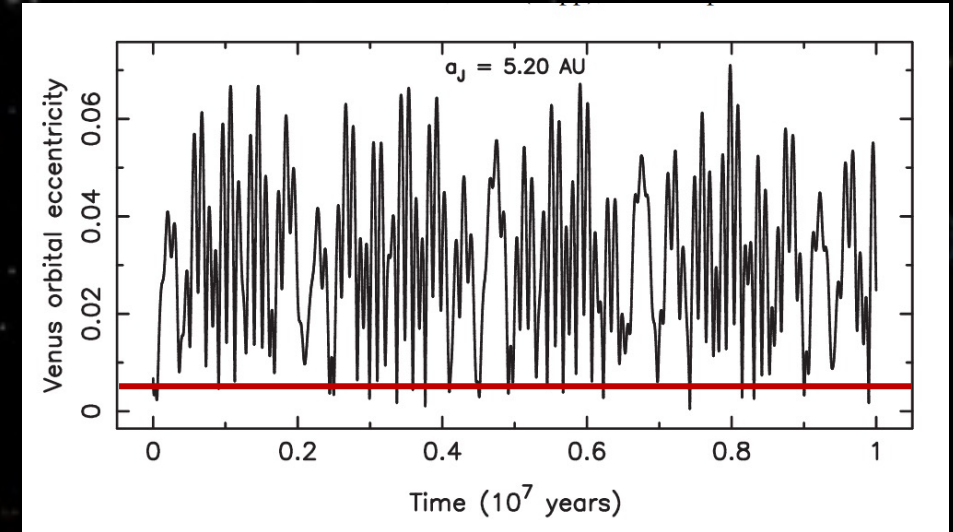


# HOW JUPITER AFFECTED VENUS



- ✦ Venus is similar to Earth in size and mass, but it is not currently habitable
- ✦ At the time the rocky inner planets were forming, Jupiter was also growing and varied widely in its average distance from the Sun
- ✦ How did Jupiter's movement affect Venus, and what effect did it have on Venus' habitability?
- ✦ NExSS researchers varied Jupiter's orbital details and noted how it affected Venus' eccentricity
- ✦ They showed that if Venus had a higher eccentricity at one time, it also must have had water to bring the eccentricity down to its current level
- ✦ A high Venusian eccentricity would lead Venus to lose its oceans ~5% faster
- ✦ The presence of gas giants in exoplanetary systems may affect the evolution of rocky planets there too



Above: Modeled estimates of Venus' orbital eccentricity over time (red line is current value).  
Left: The modeled eccentricity versus the decrease in time to lose all of Venus' oceans.