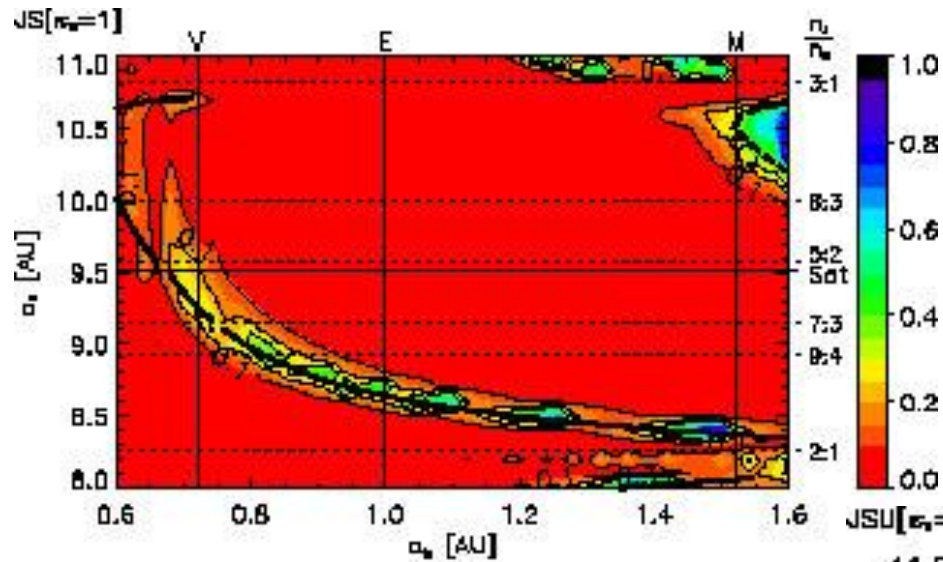


# Vergleich mit Sonnensystem:

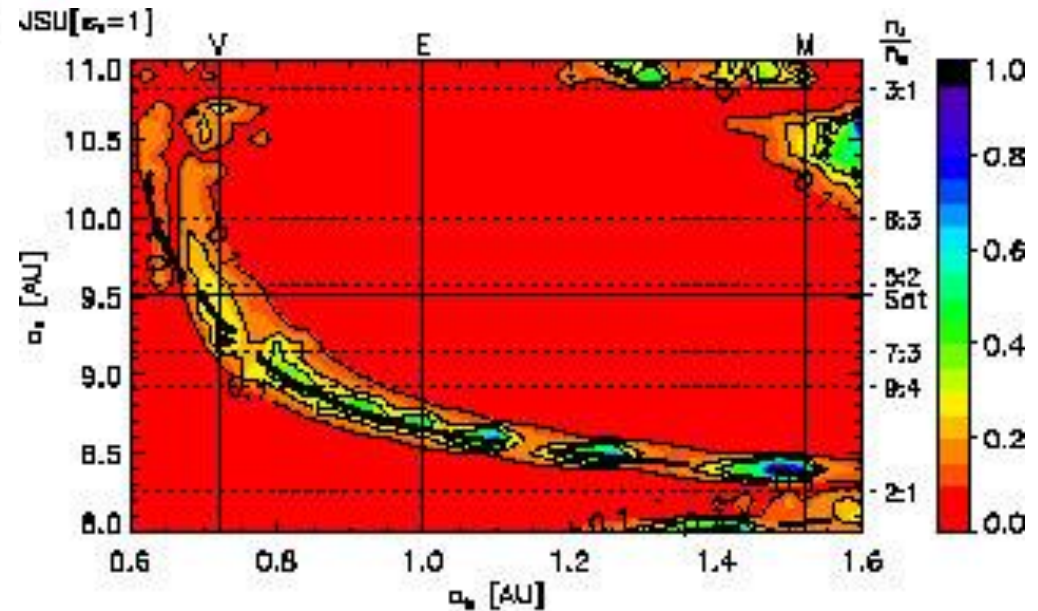
Welche Planeten beeinflussen die HZ ?

# Einfluss auf die HZ:



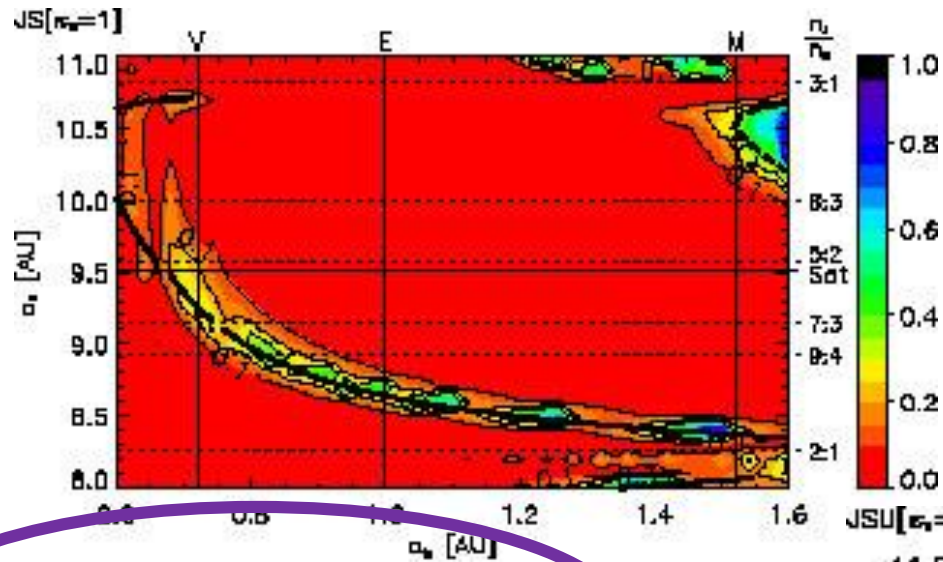
Jupiter -- Saturn

## Jupiter – Saturn -Uranus



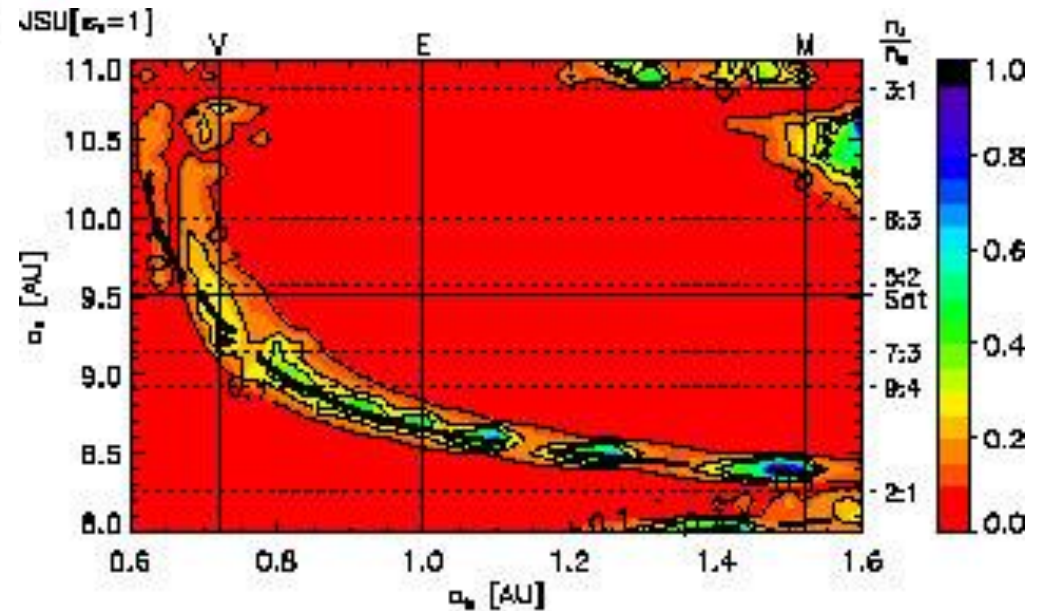
Pilat-Lohinger et al. 2008, ApJ 681, p.1639  
Pilat-Lohinger et al. 2008, CMeDA, 102, p. 83

# Einfluss auf die HZ:

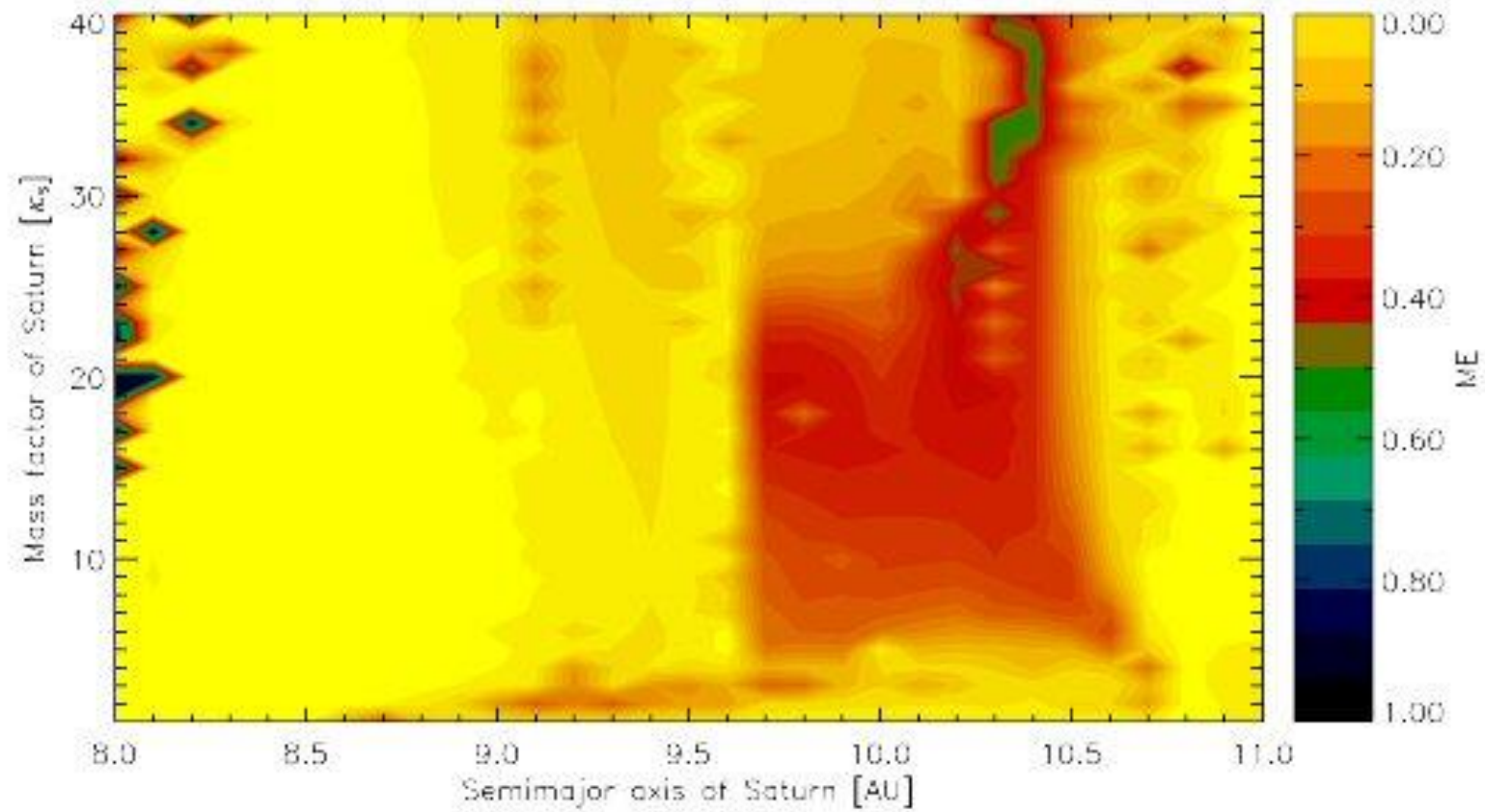


Jupiter -- Saturn

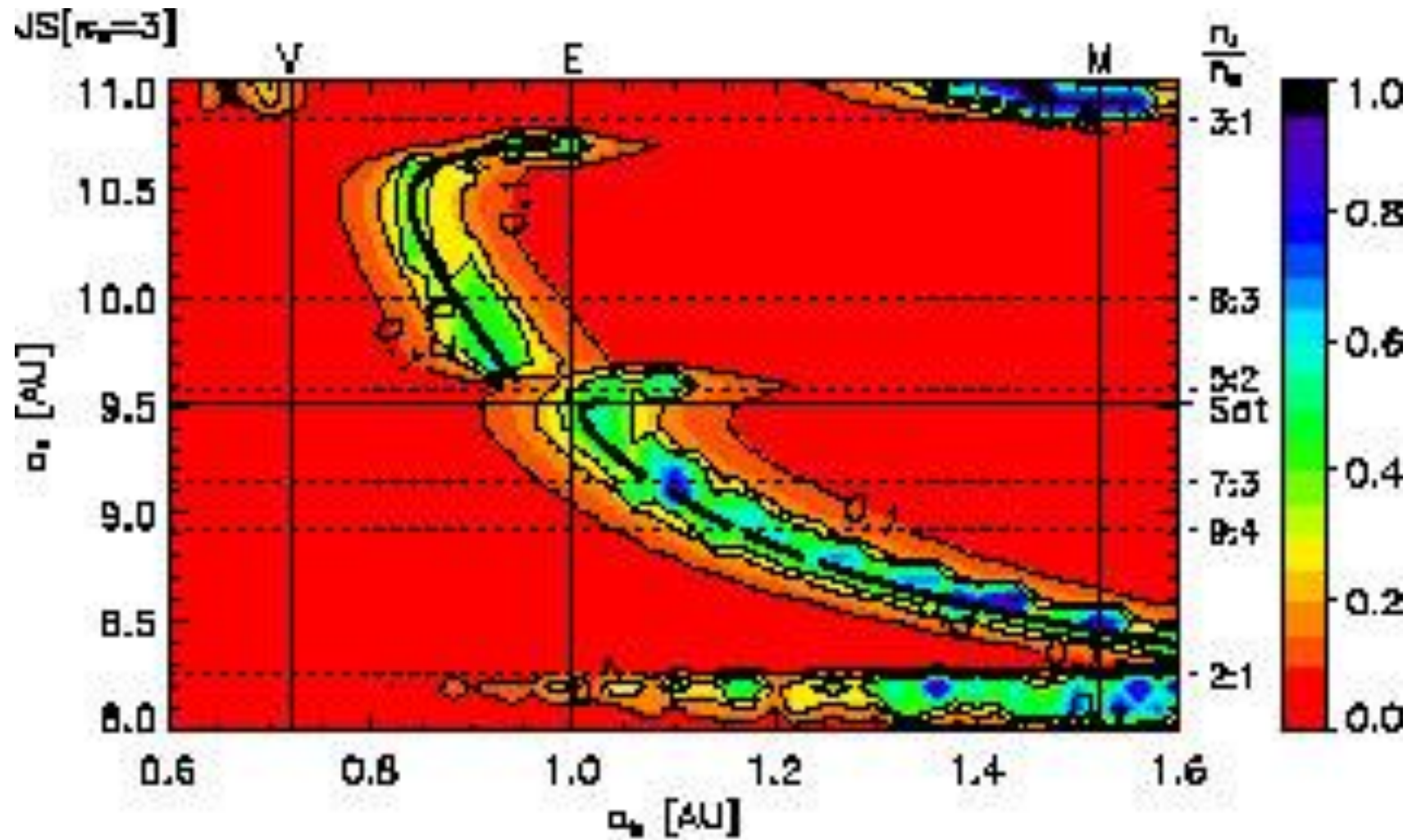
Jupiter – Saturn -Uranus

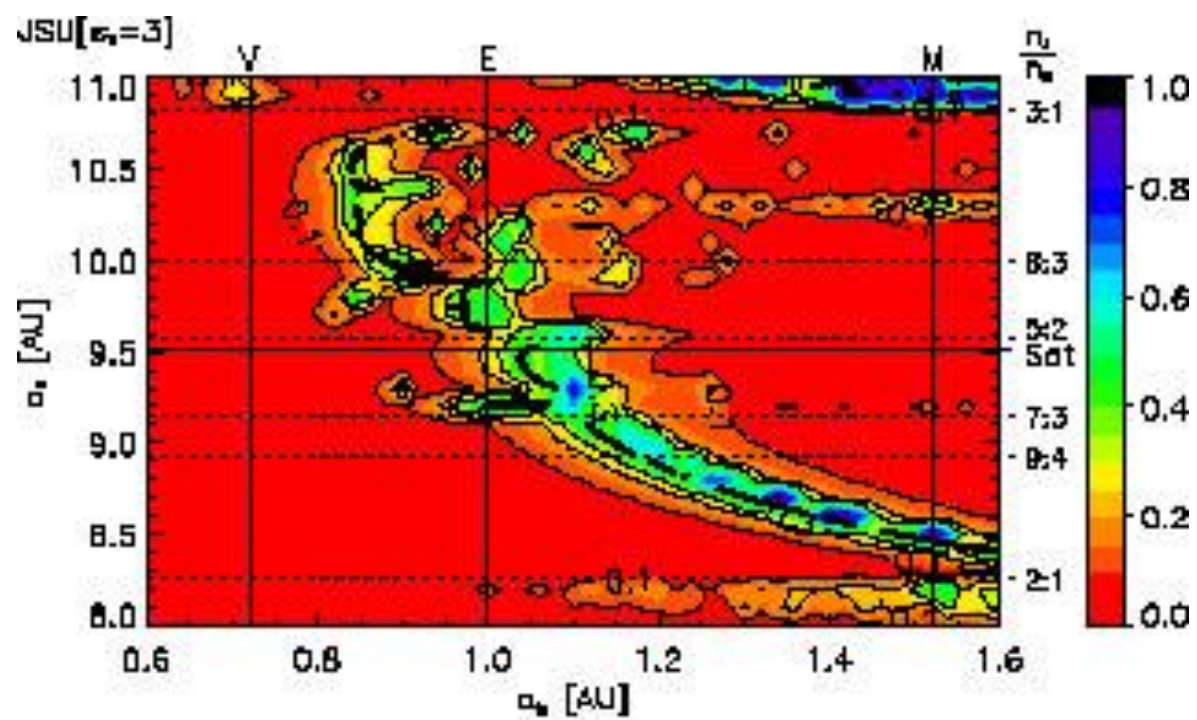
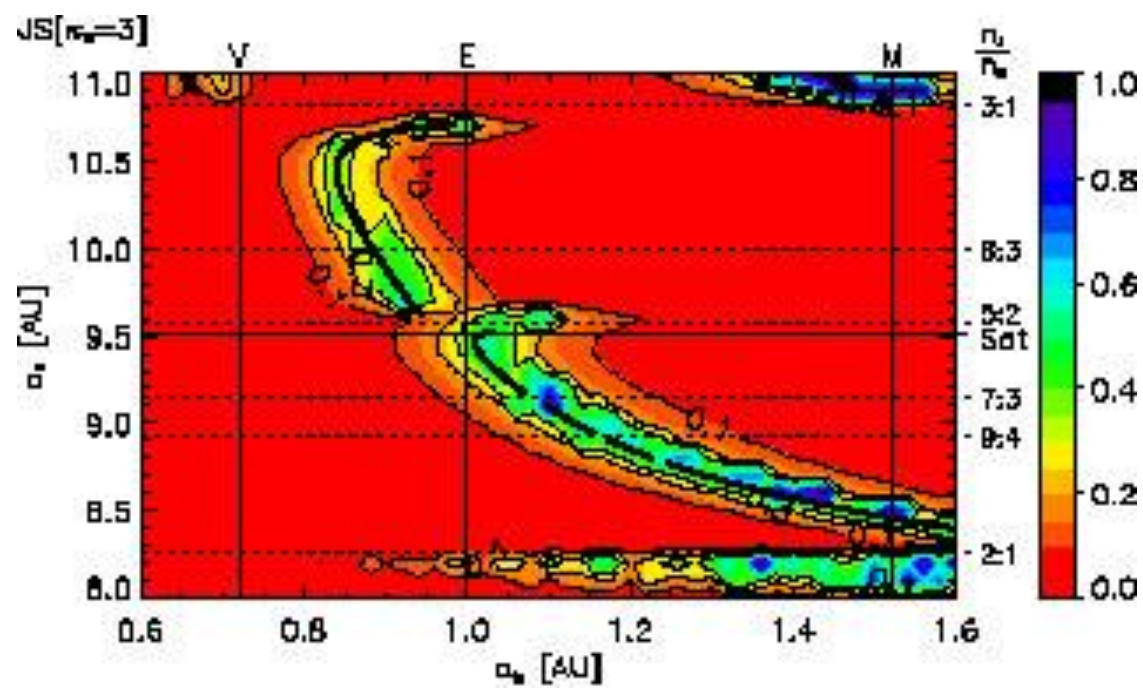


## Influence on an Earth-like planet at 1 AU

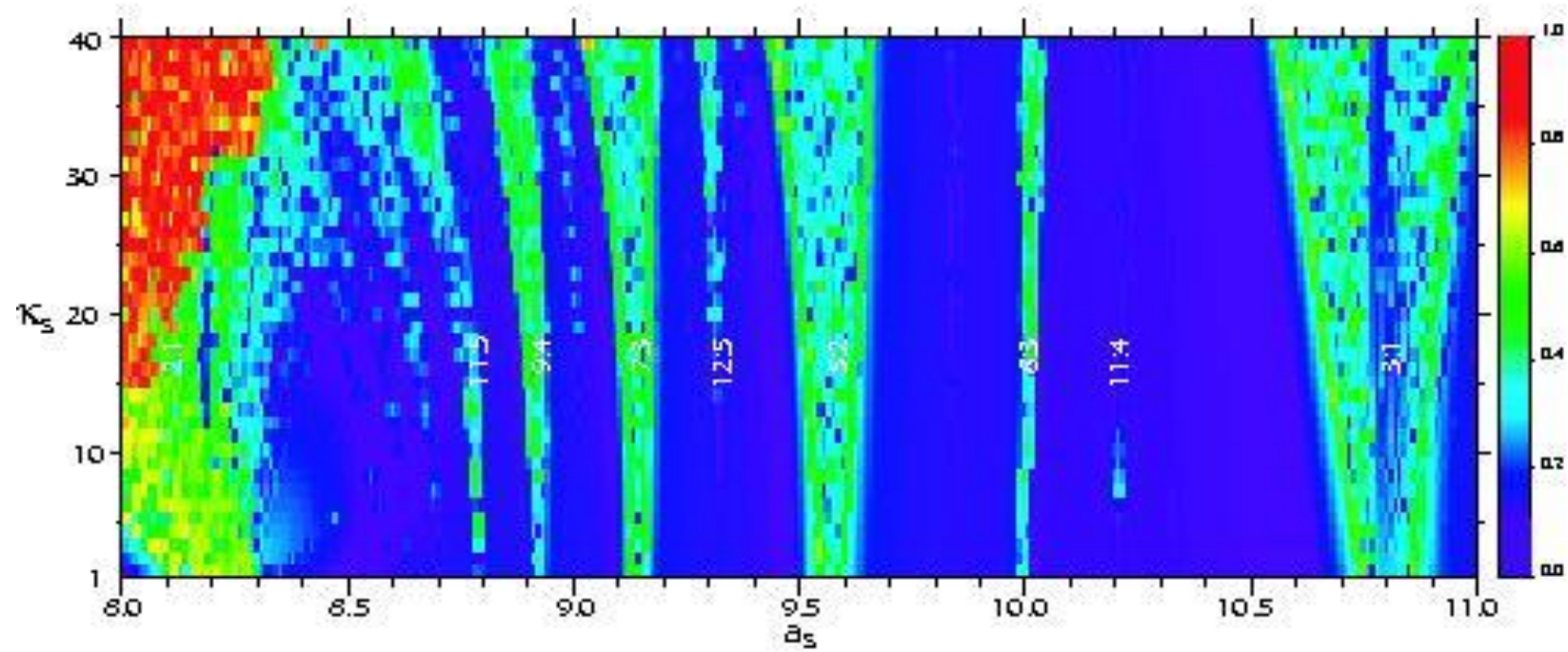


Annahme:  $m_{\text{Saturn}} = 1 \text{ Jupitermasse}$





# MMRs of Jupiter-Saturn

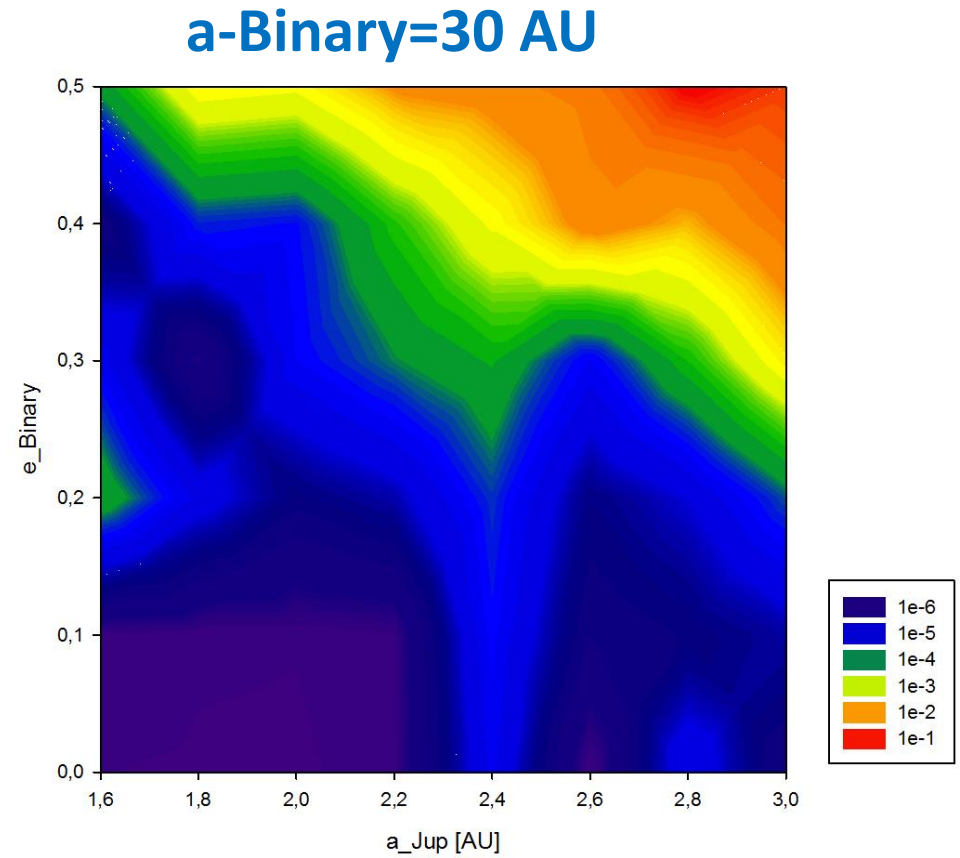
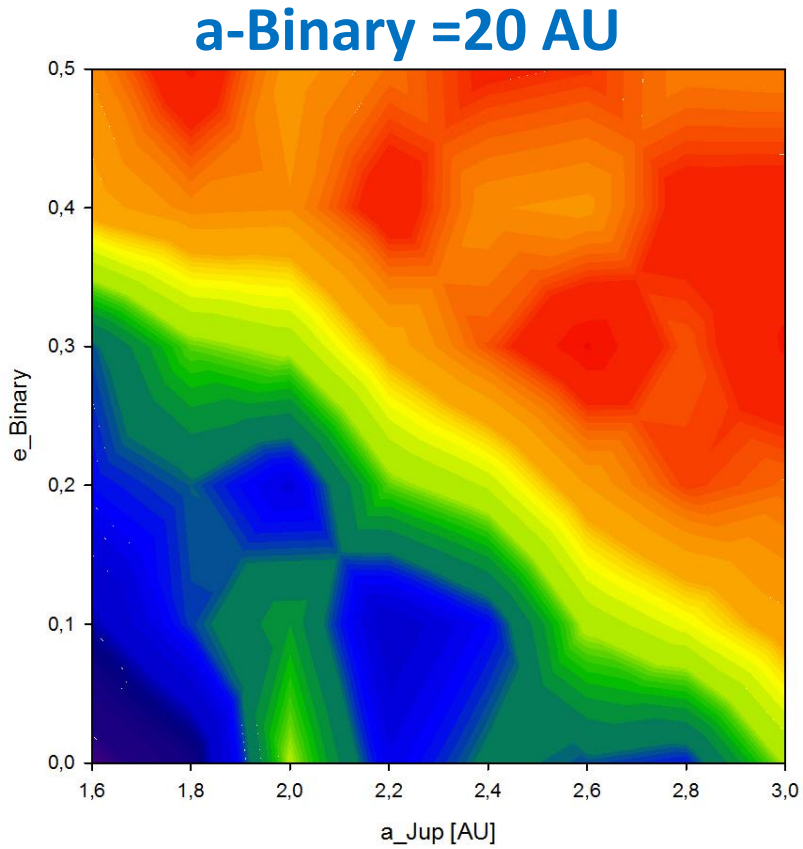


# Jupiter-Saturn-Earth in a G-G Binary

→ Influence on the habitability of the Earth

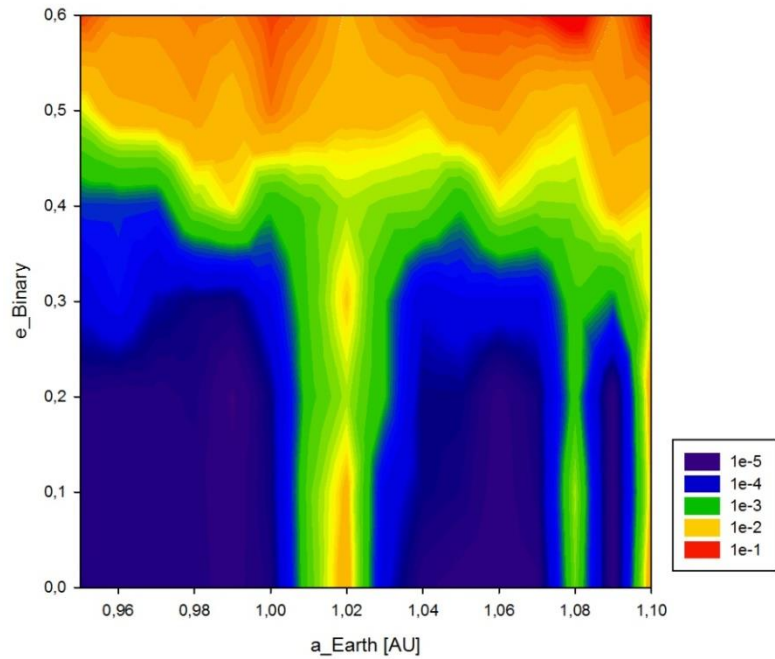


# Jupiter-Saturn in G-G Binary



# Jupiter-Saturn-Earth in a G-G Binary

**a-Binary = 20 AU**



**a-Binary = 30 AU**

