

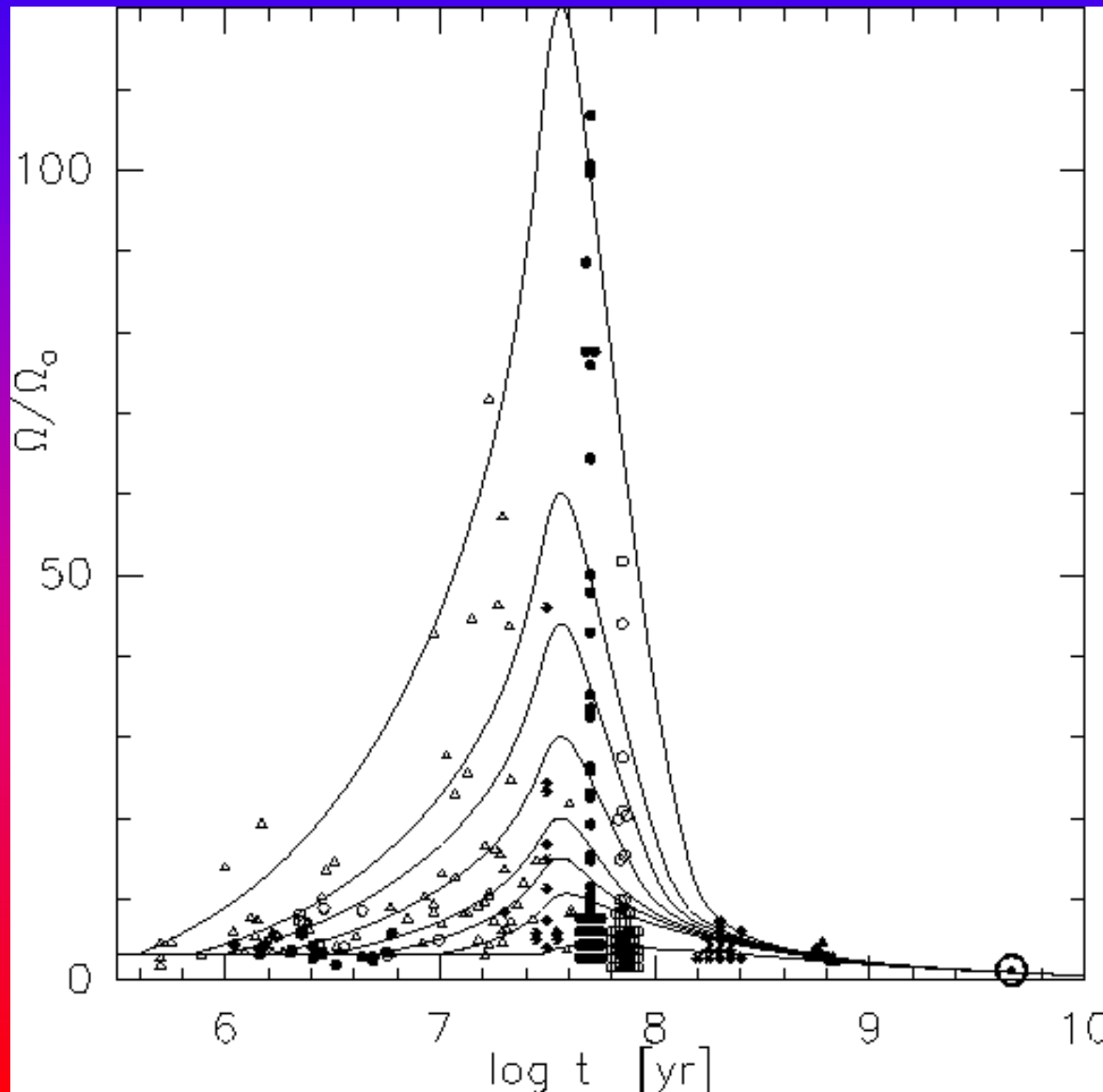
The Rotation of Very Low Mass Stars and Brown Dwarfs

Jochen Eislöffel

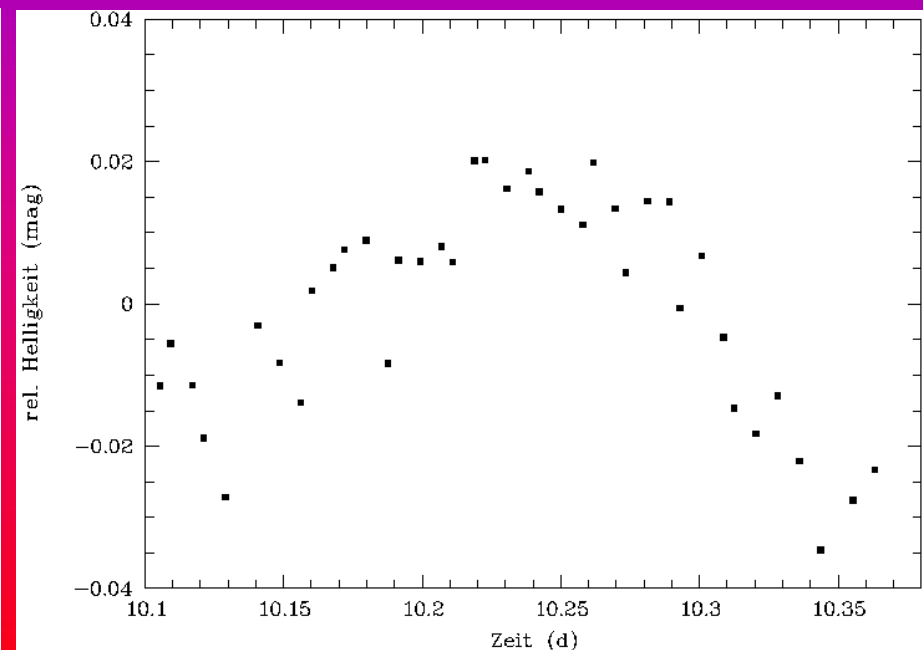
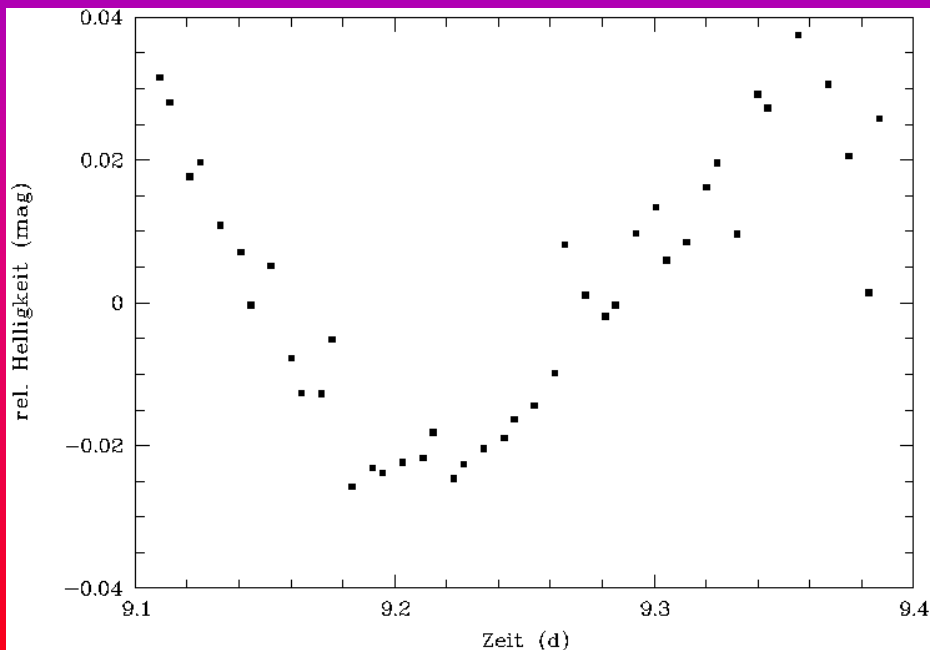
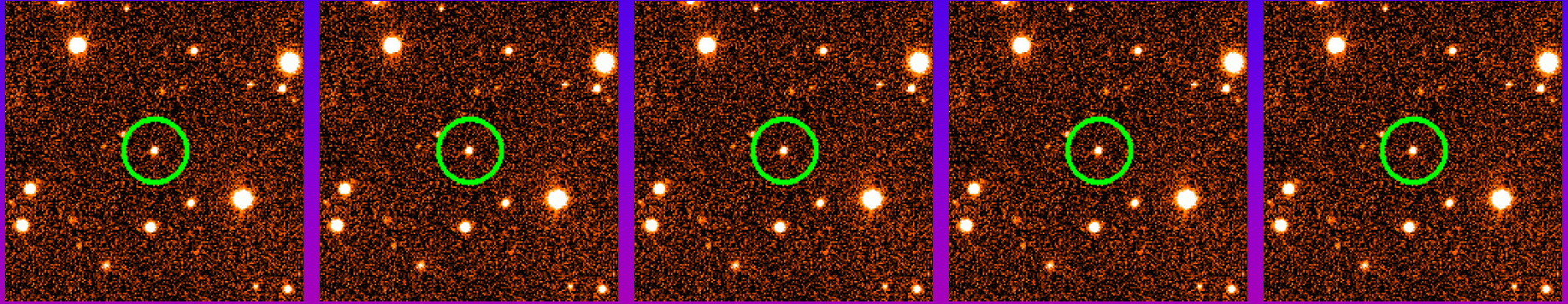


Thüringer Landessternwarte Tautenburg

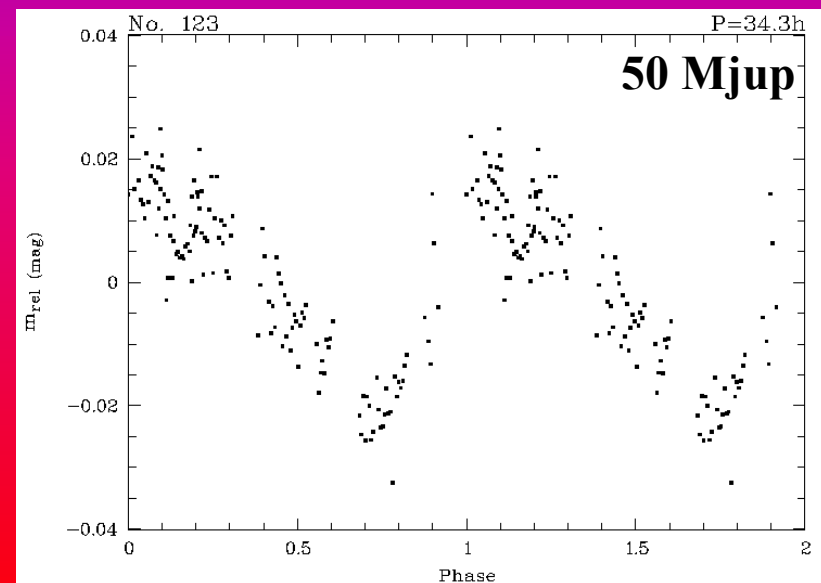
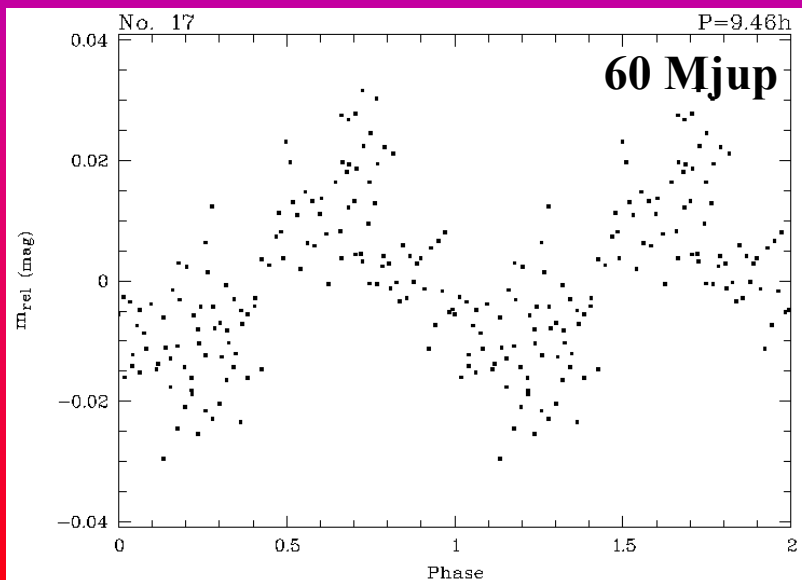
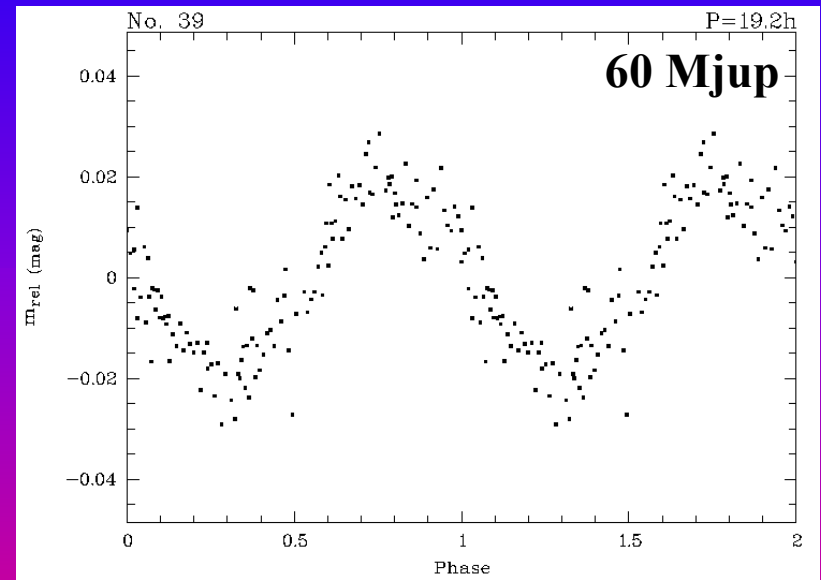
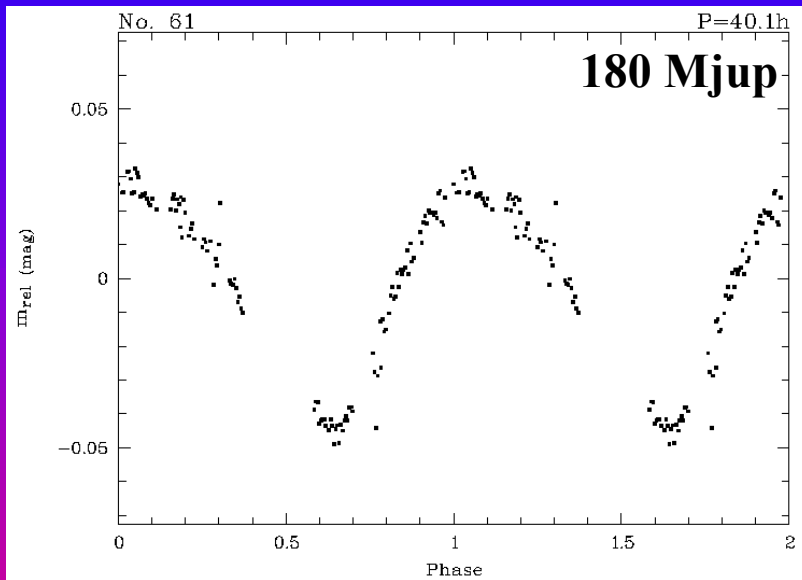
Rotation of solar mass stars



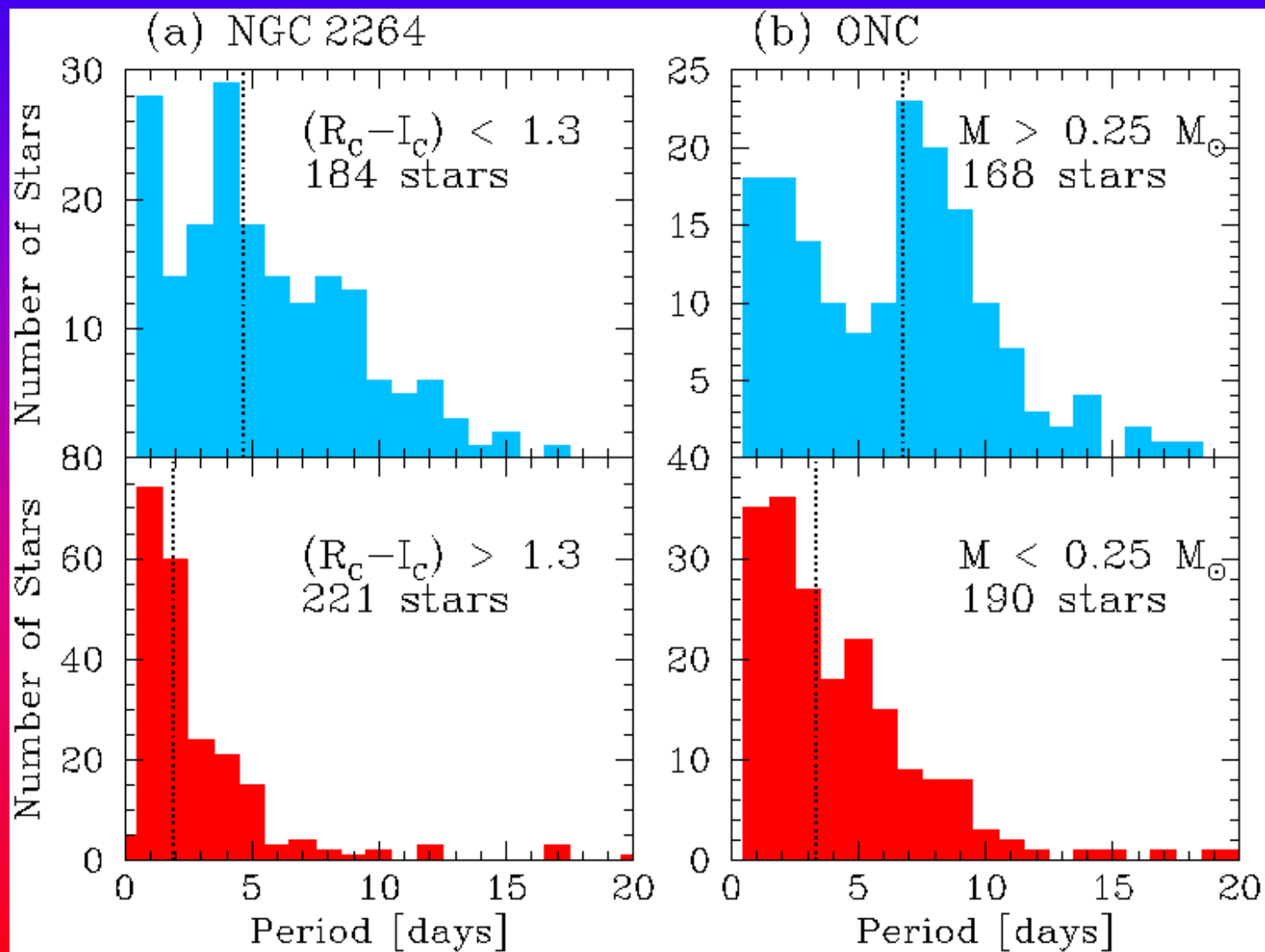
Photometric time series



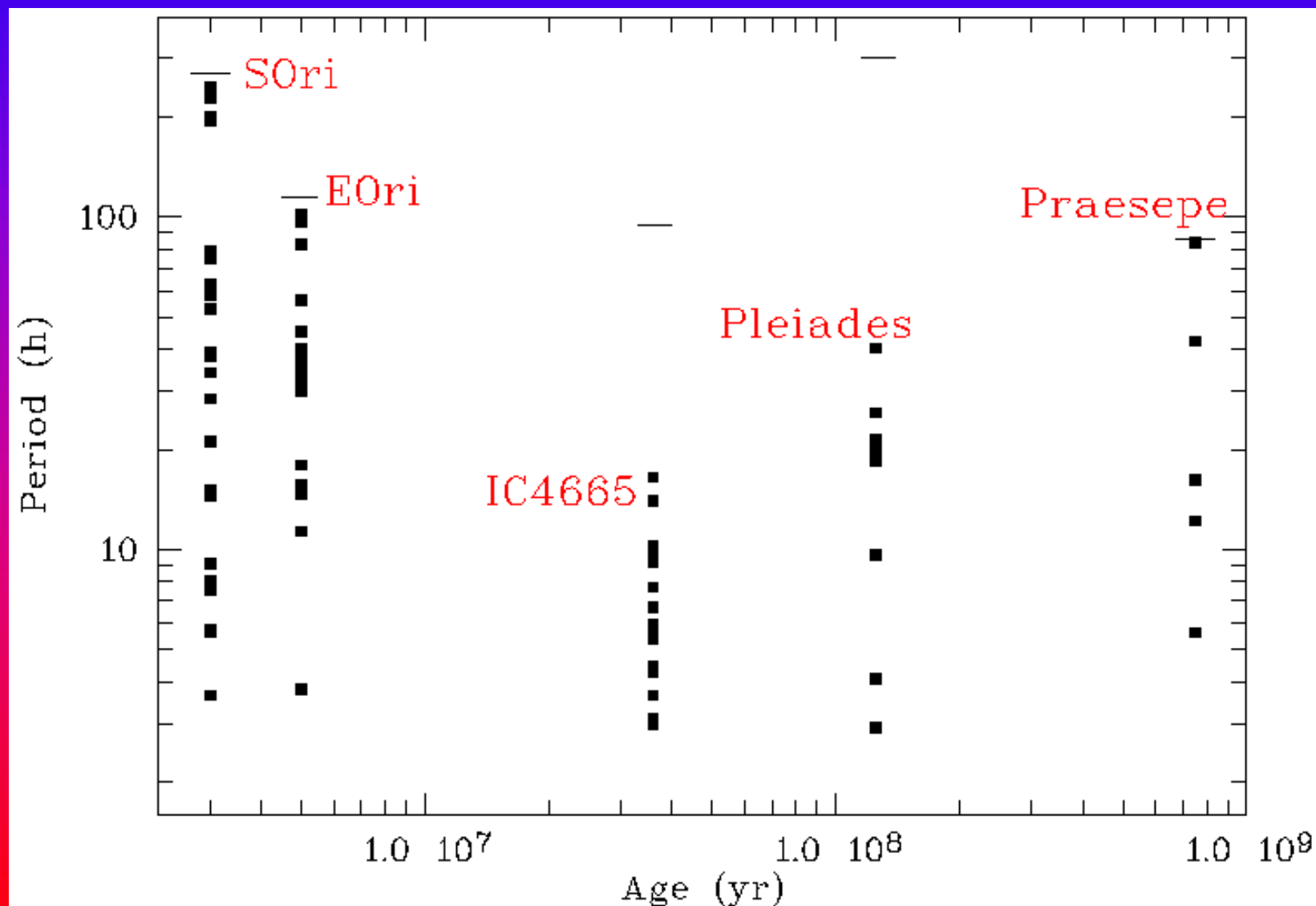
Periodic variability in ϵ Ori



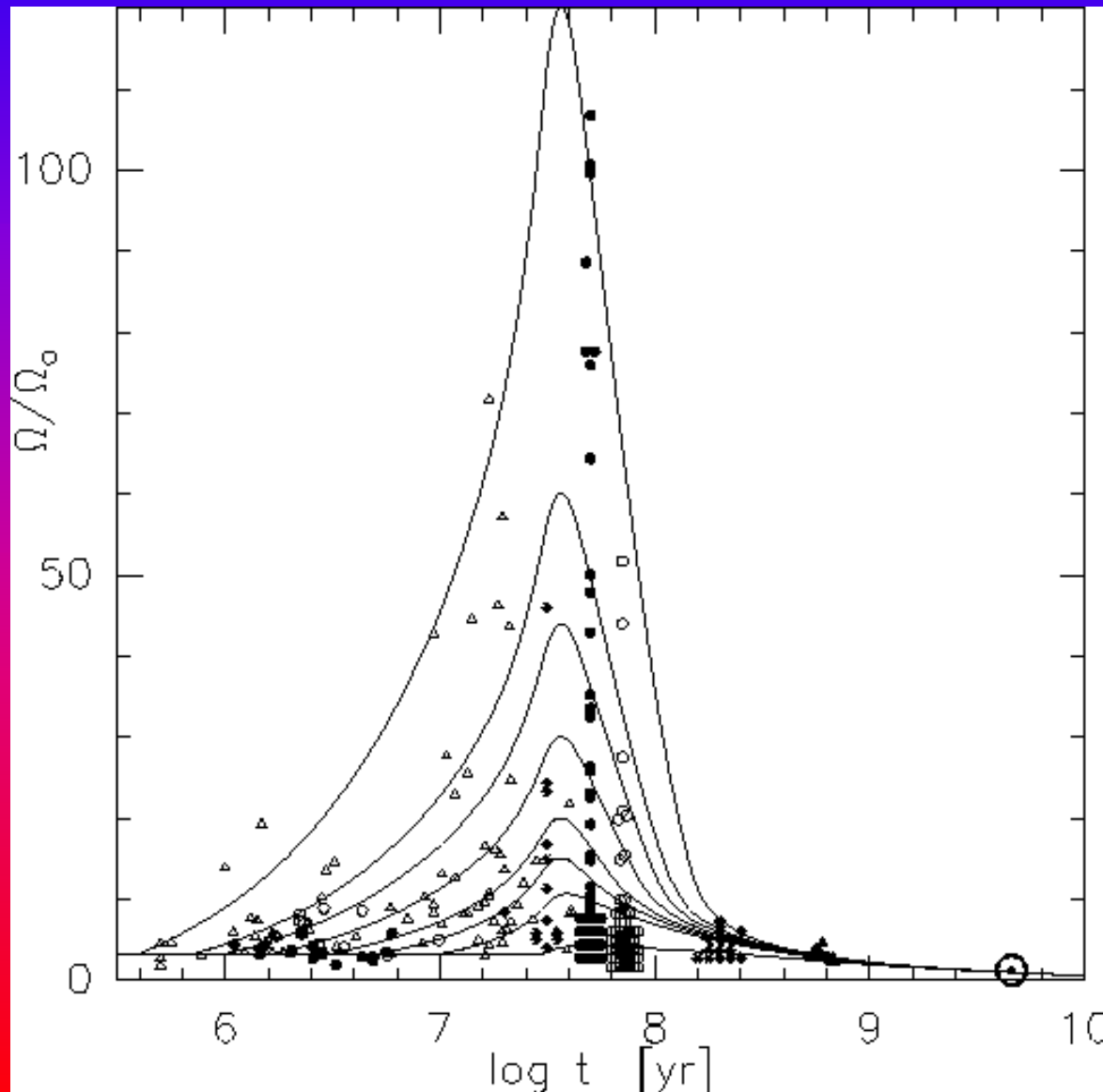
Rotation in young clusters



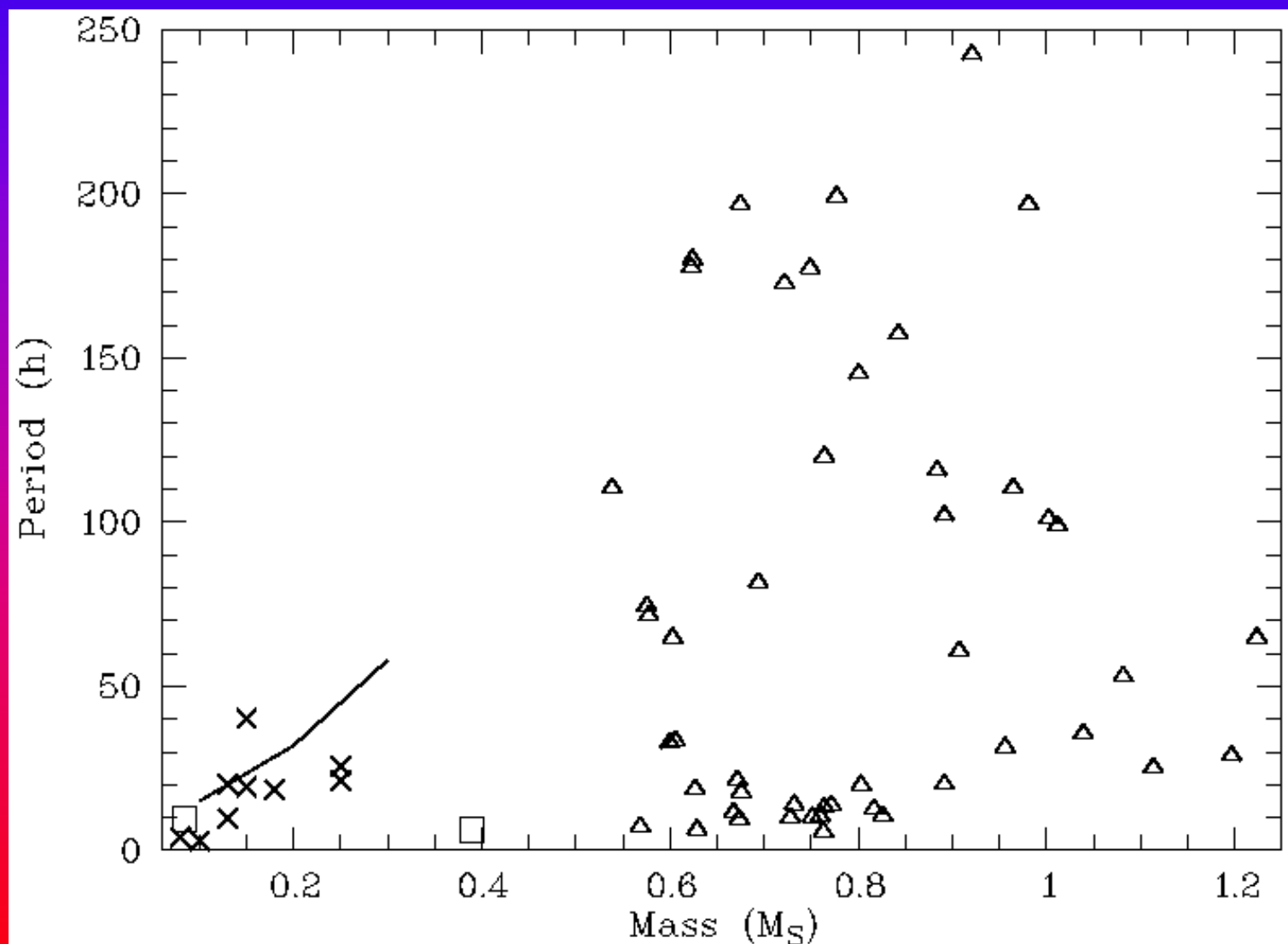
Rotation periods – all clusters



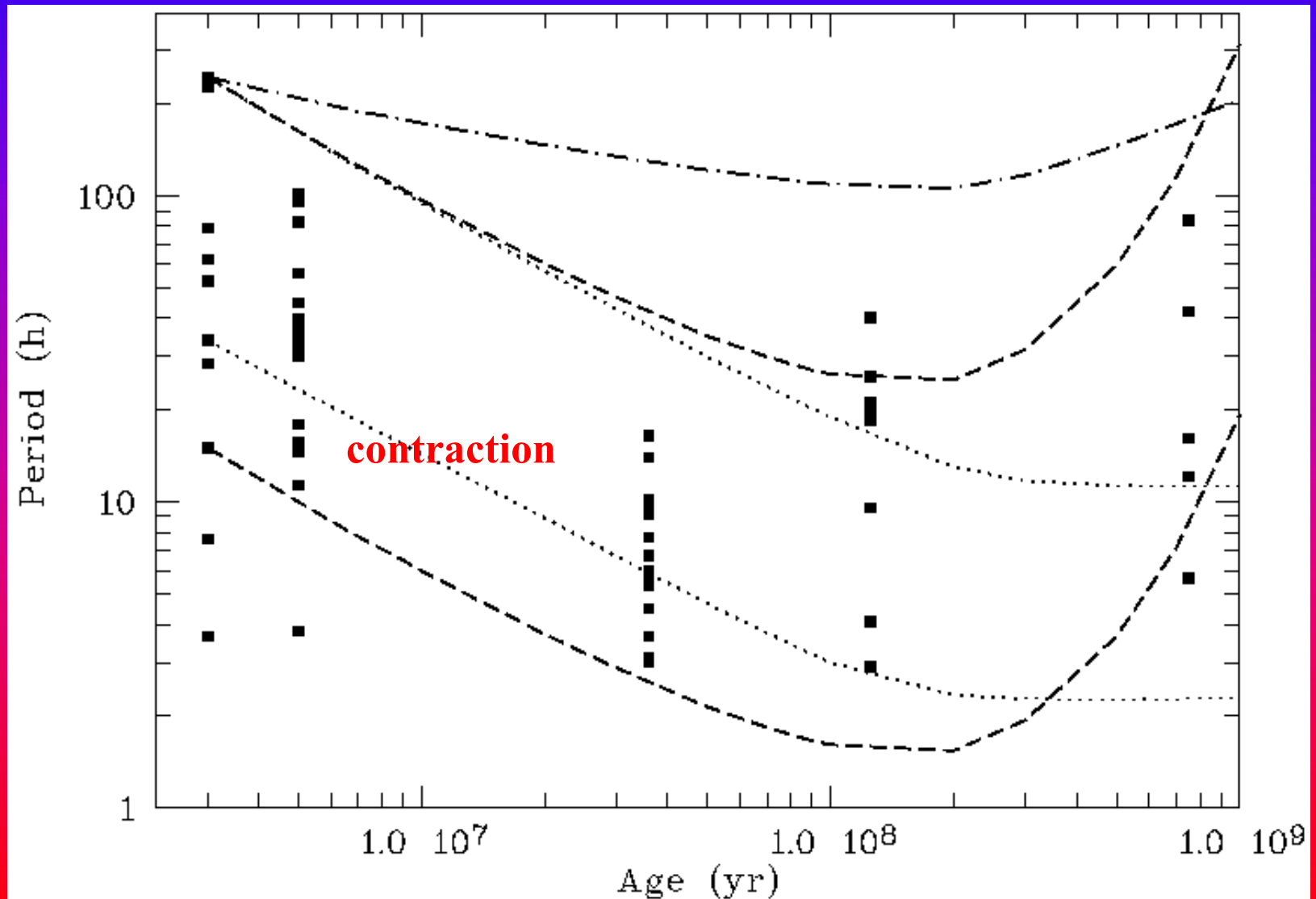
Rotation of solar mass stars



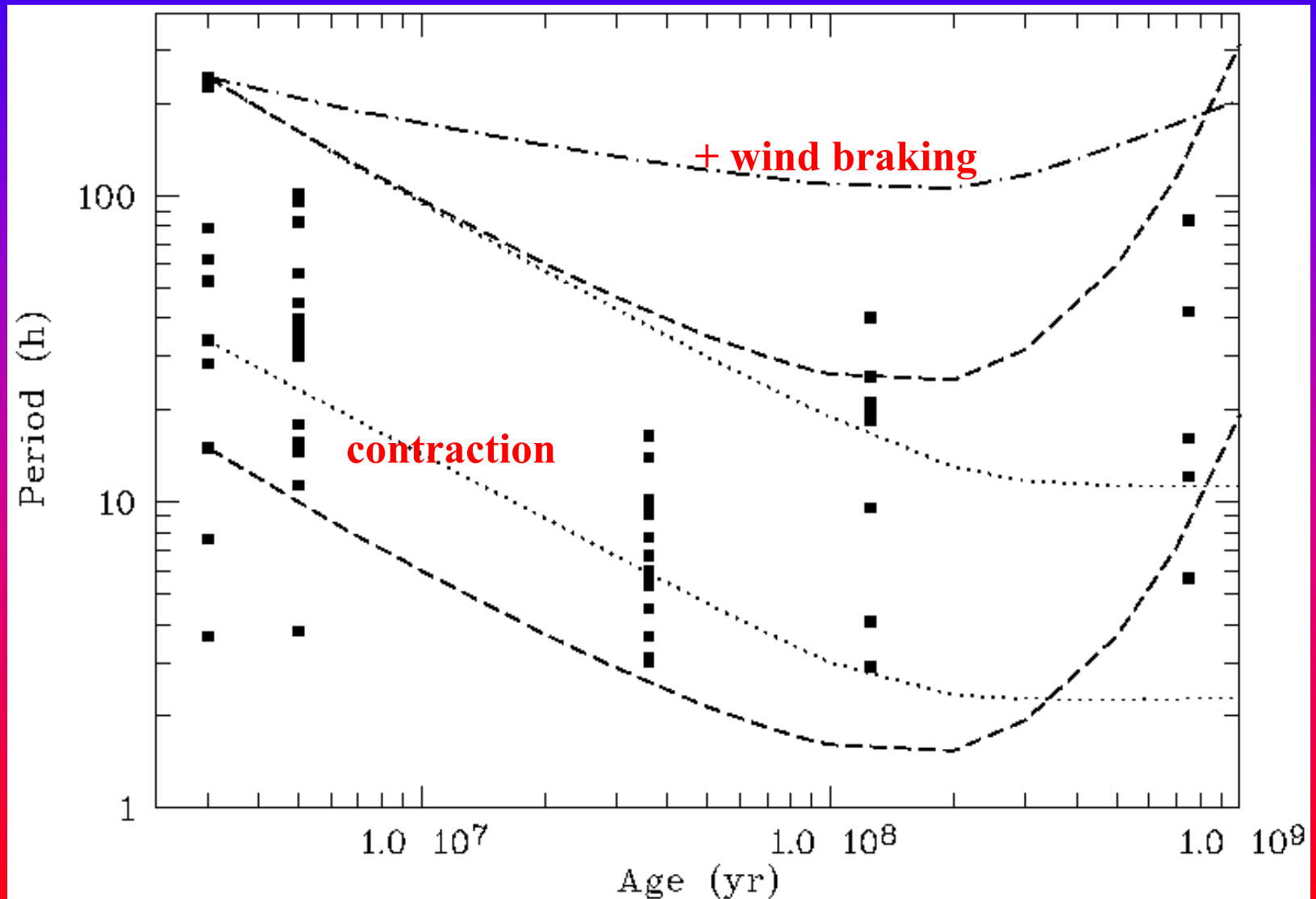
Rotation periods in the Pleiades



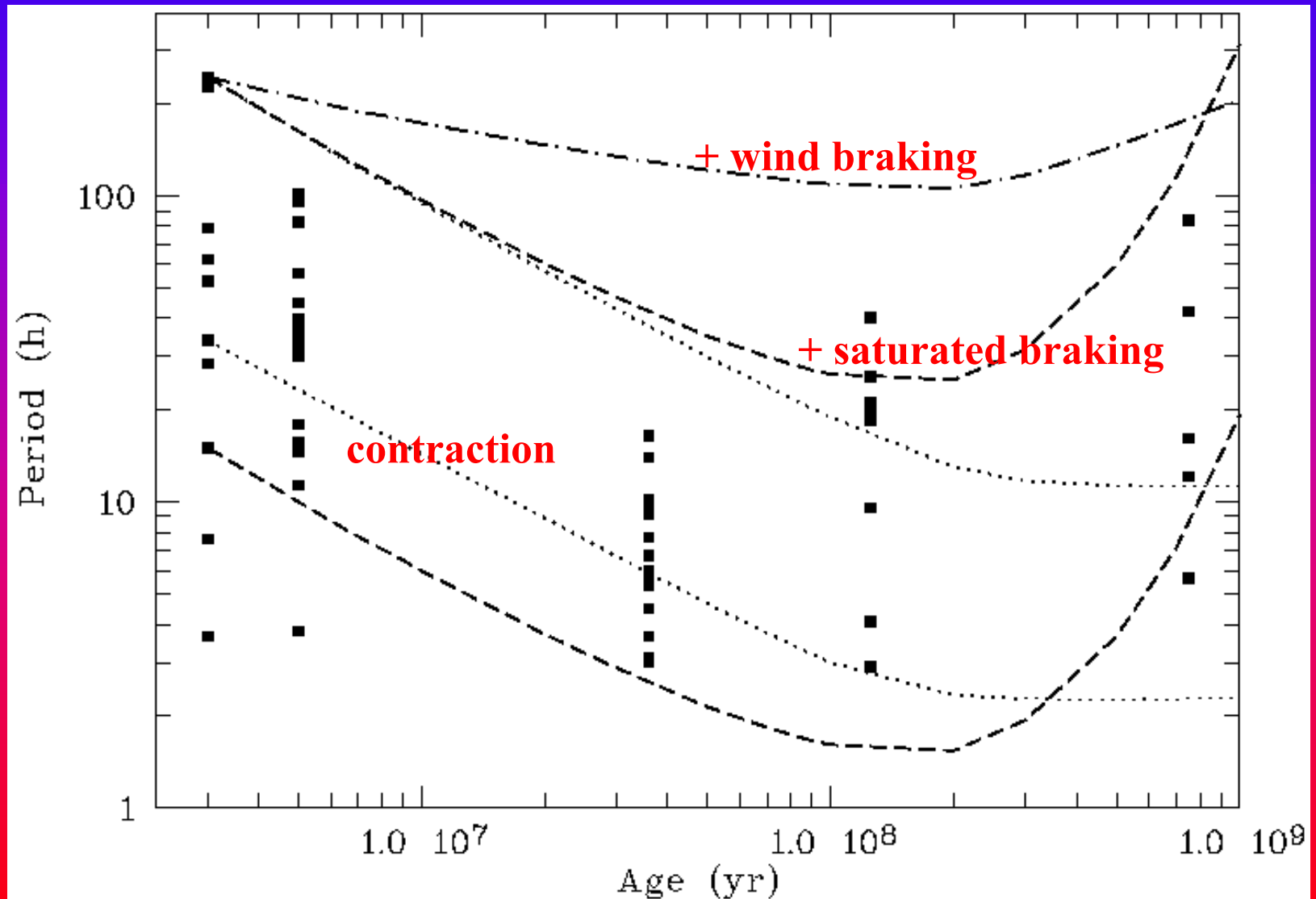
Rotational evolution: contraction



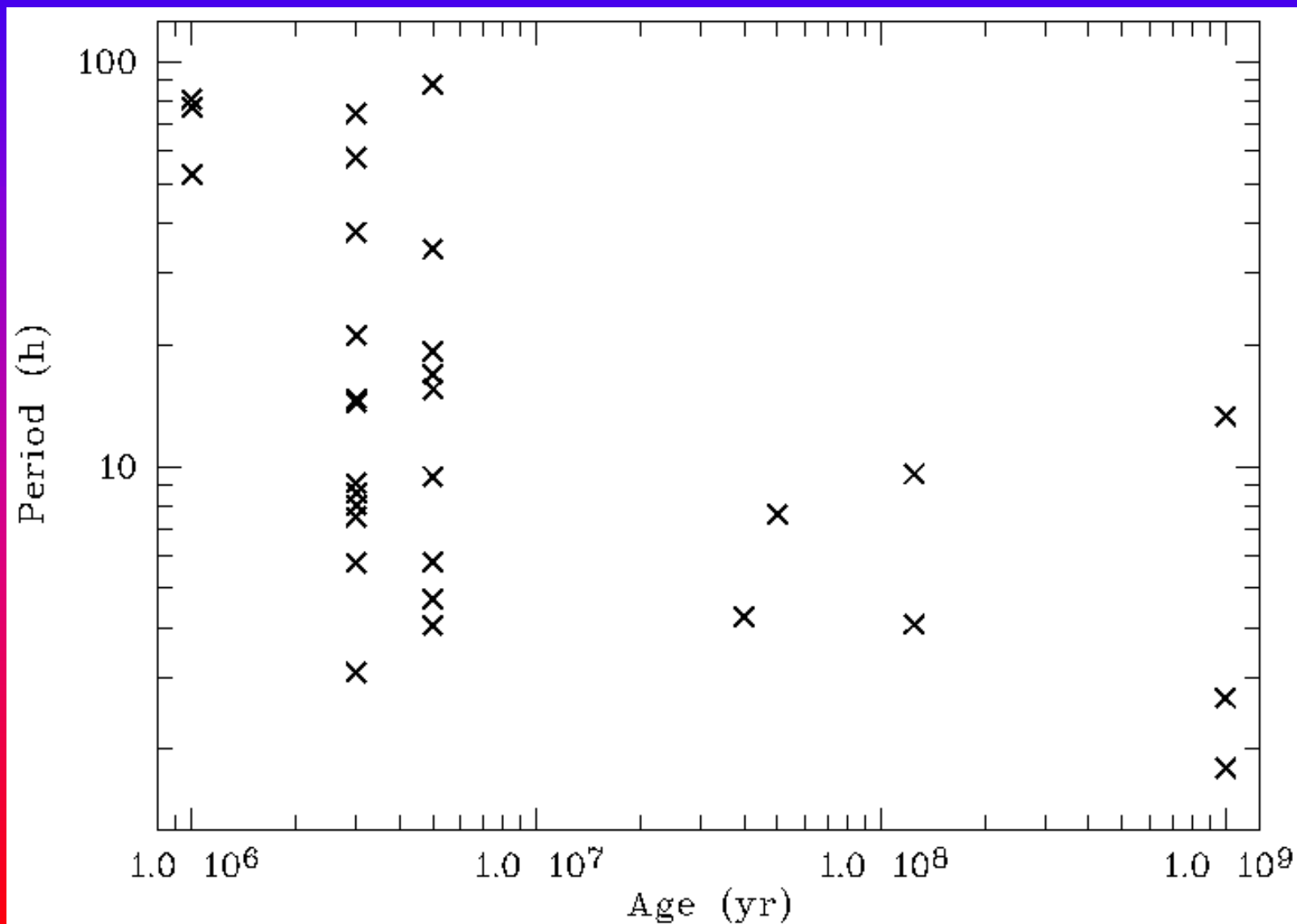
Rotational evolution - wind



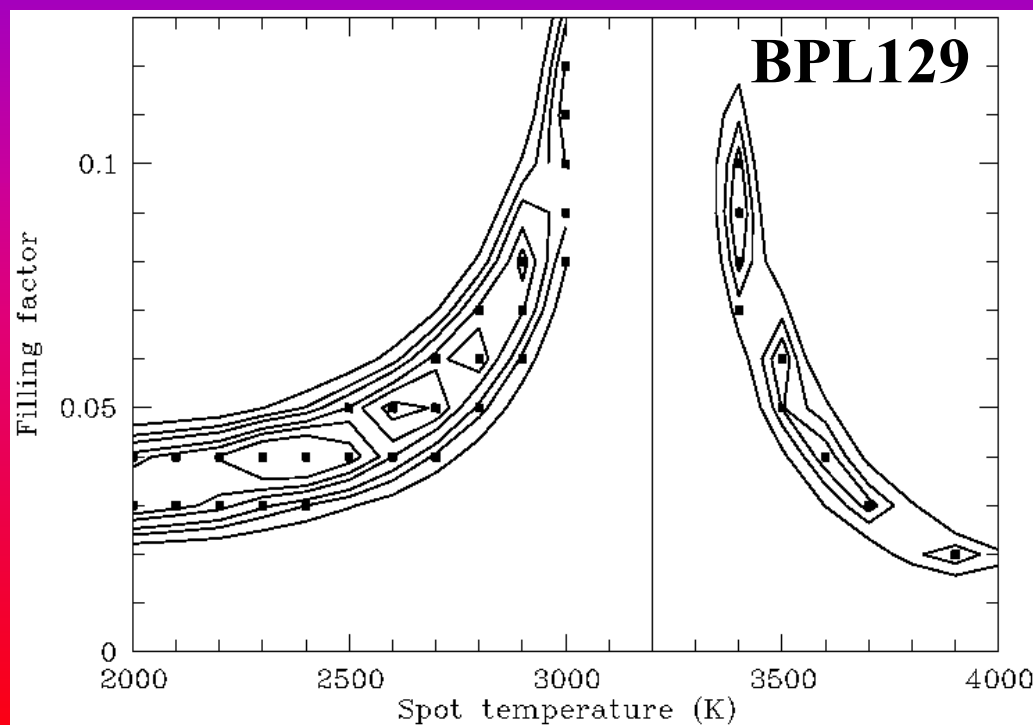
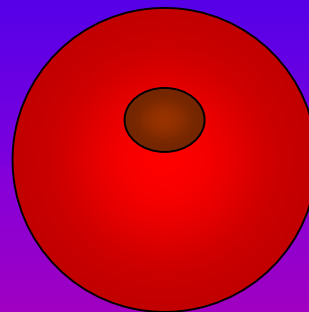
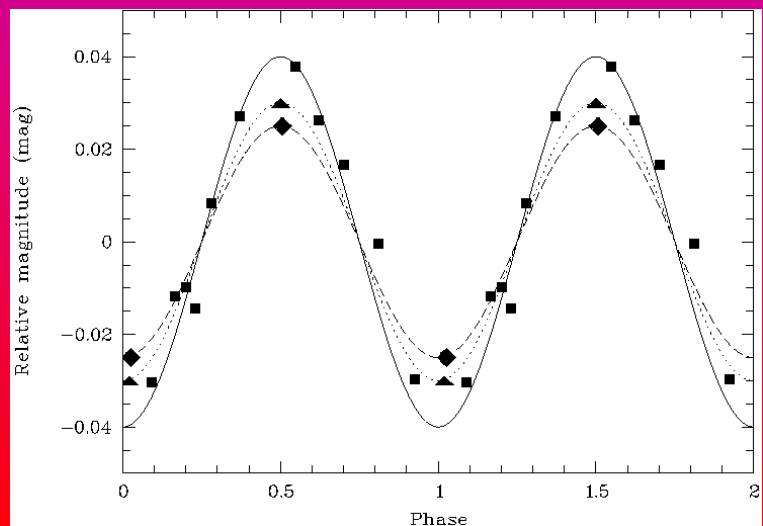
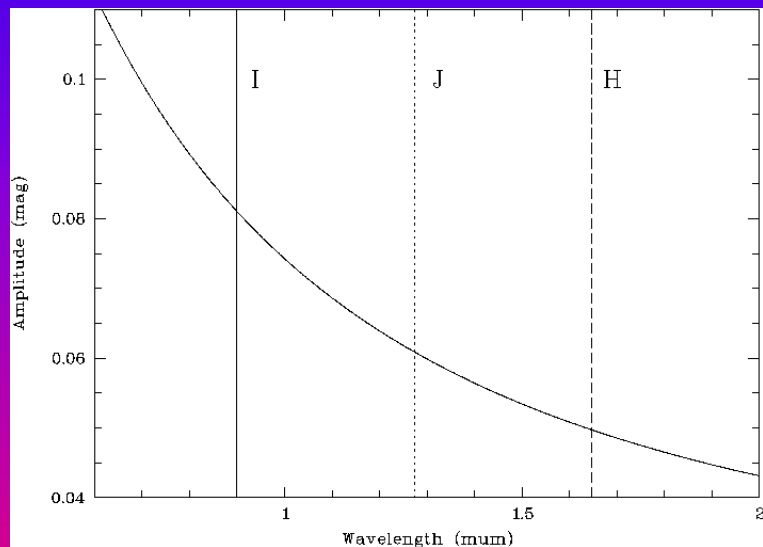
Rotational evolution - saturated



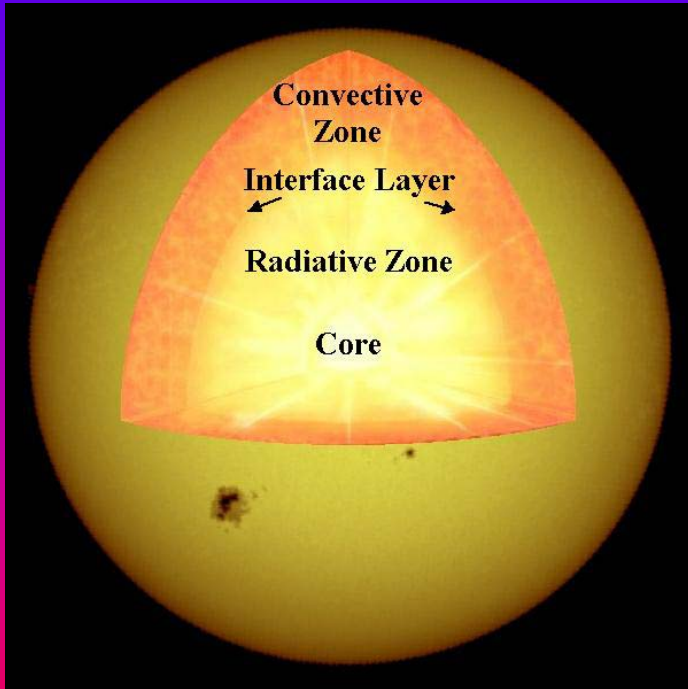
Rotation periods of brown dwarfs



Spot parameters – filling factor and temperature



Internal structure, magnetic field and activity



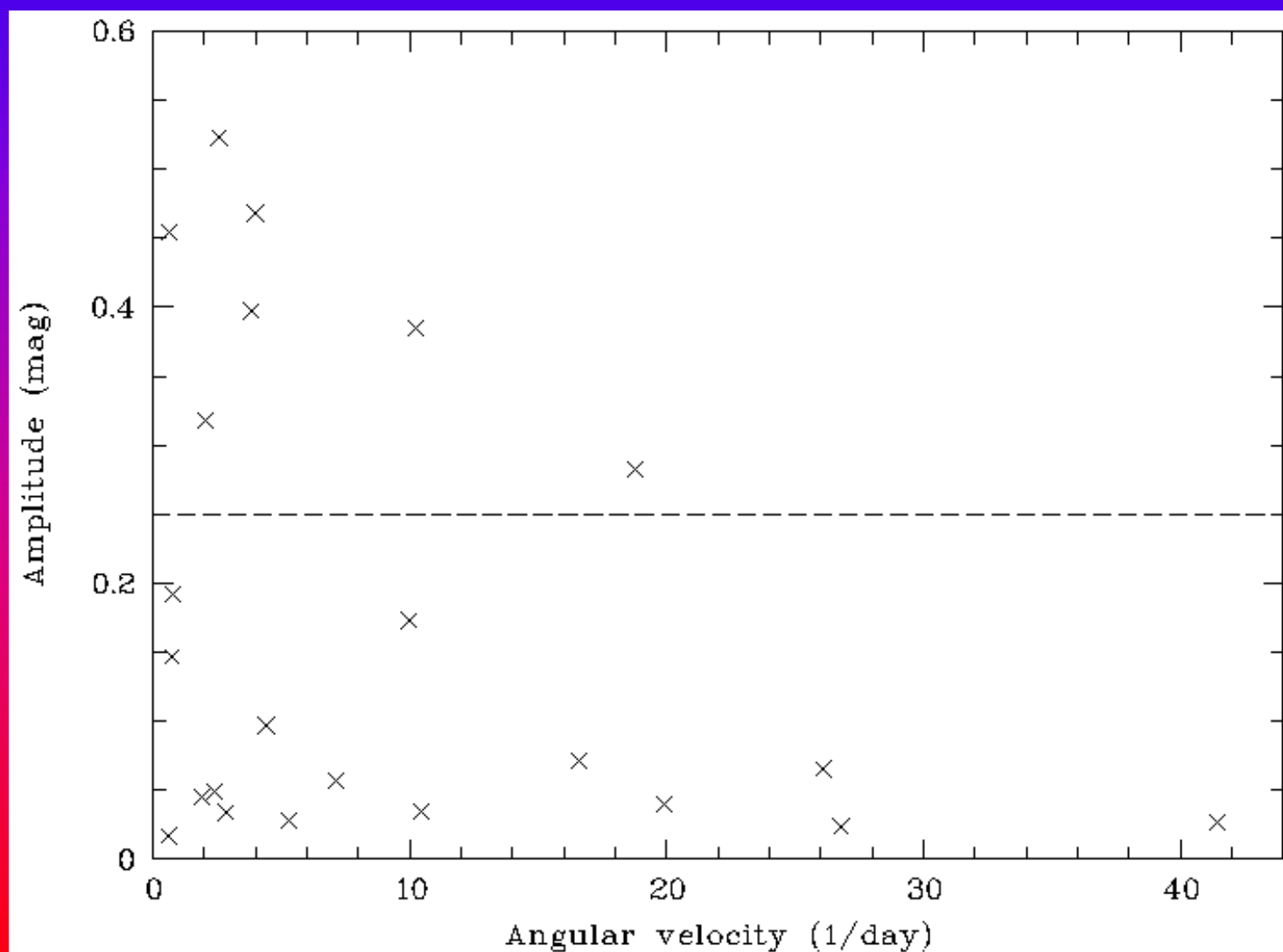
Solar-type dynamo

VS.

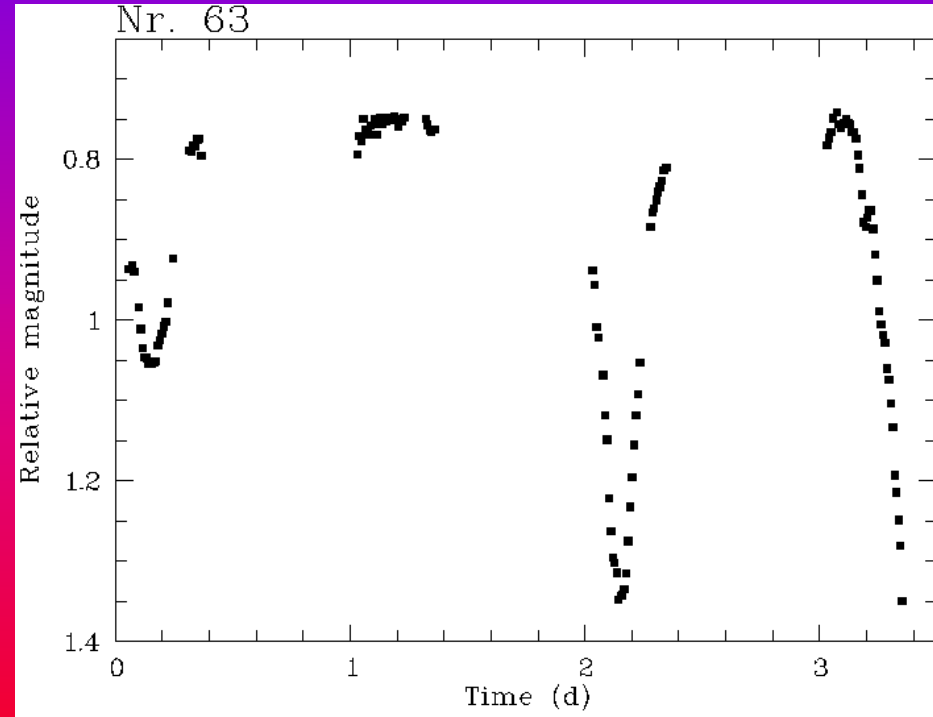
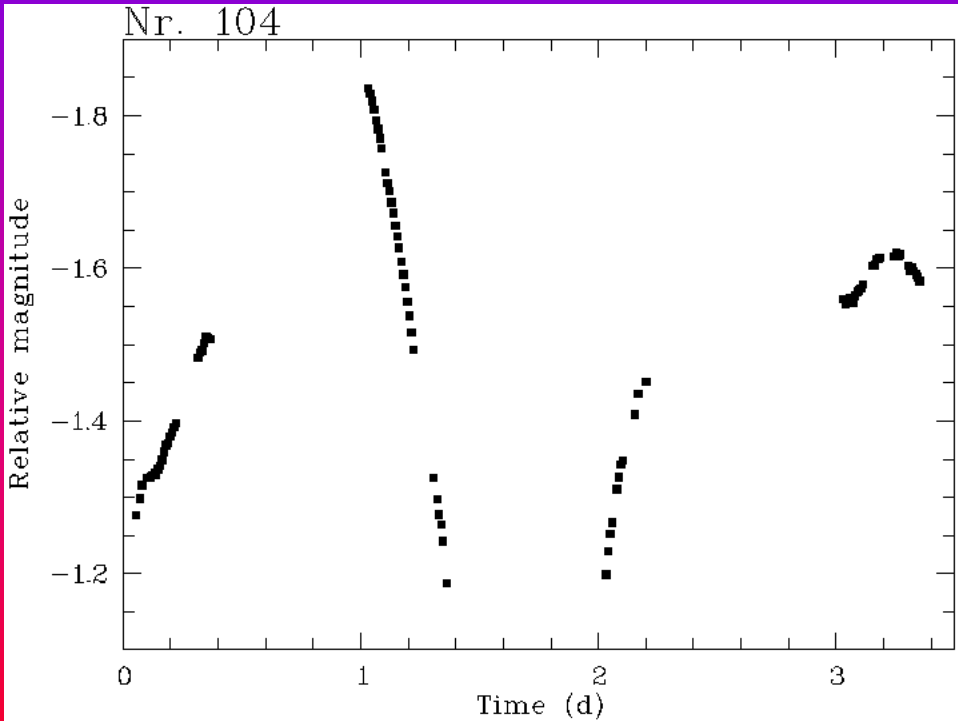
very low mass, fully convective objects

- fast rotation
- no Skumanich law
- exp. rotational braking
- imperfect disk-locking
- low spot filling factor

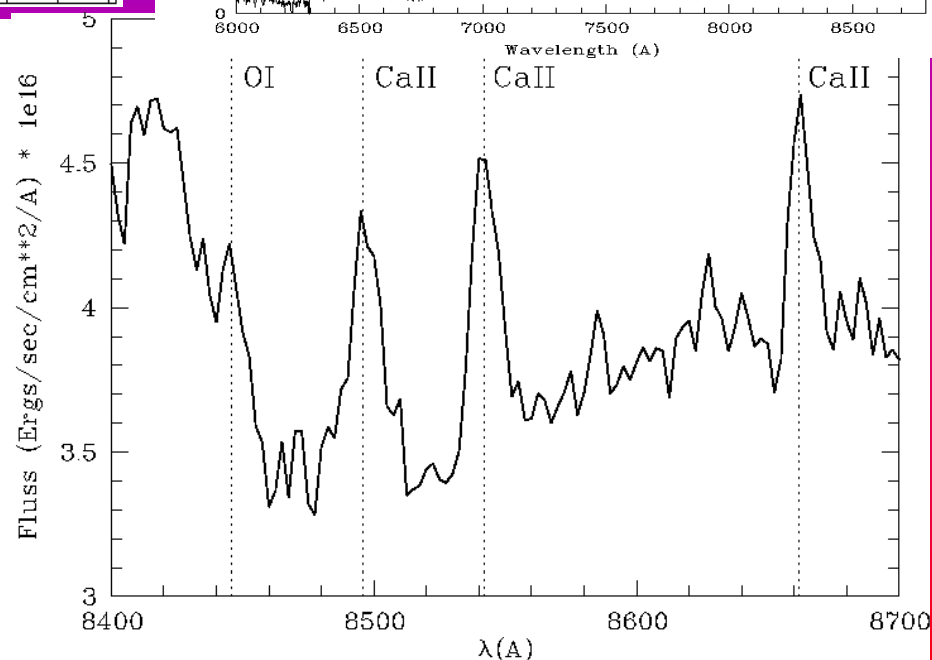
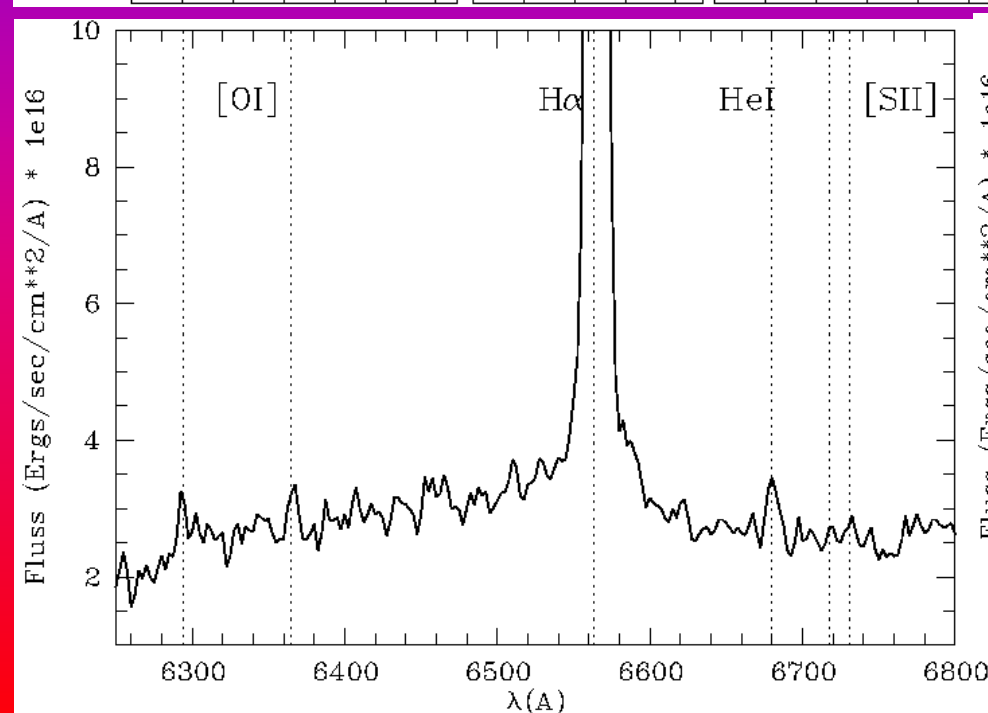
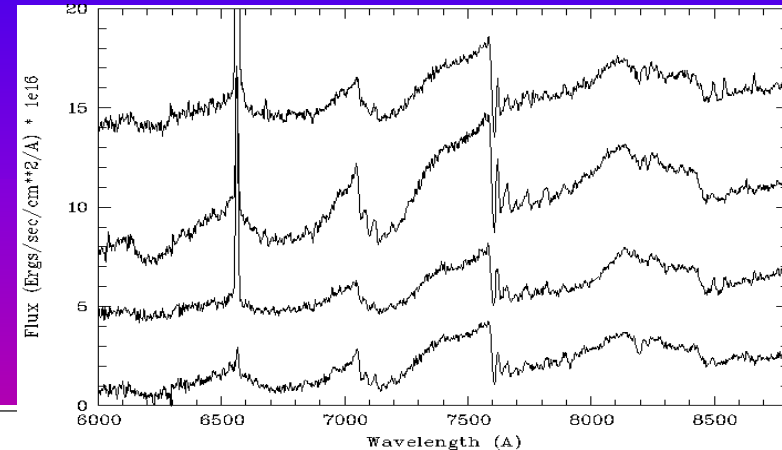
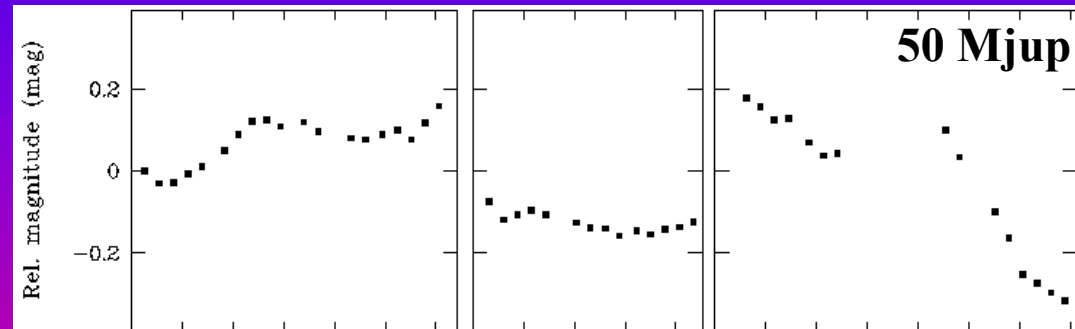
Two types of variability in σ Ori



High amplitude variables in Orion



Evidence for accretion in Orion brown dwarfs



Disks around σ Ori brown dwarfs

