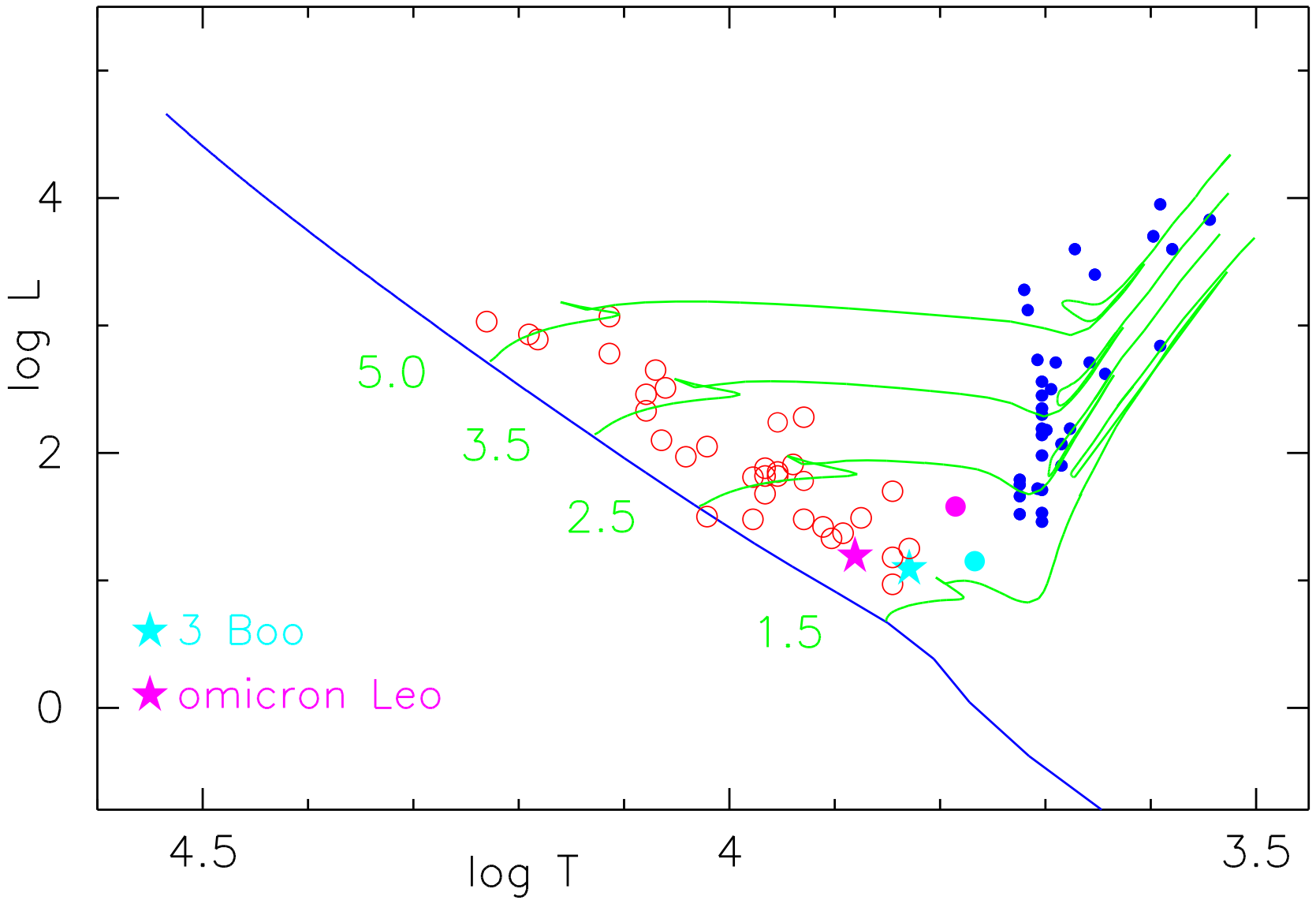
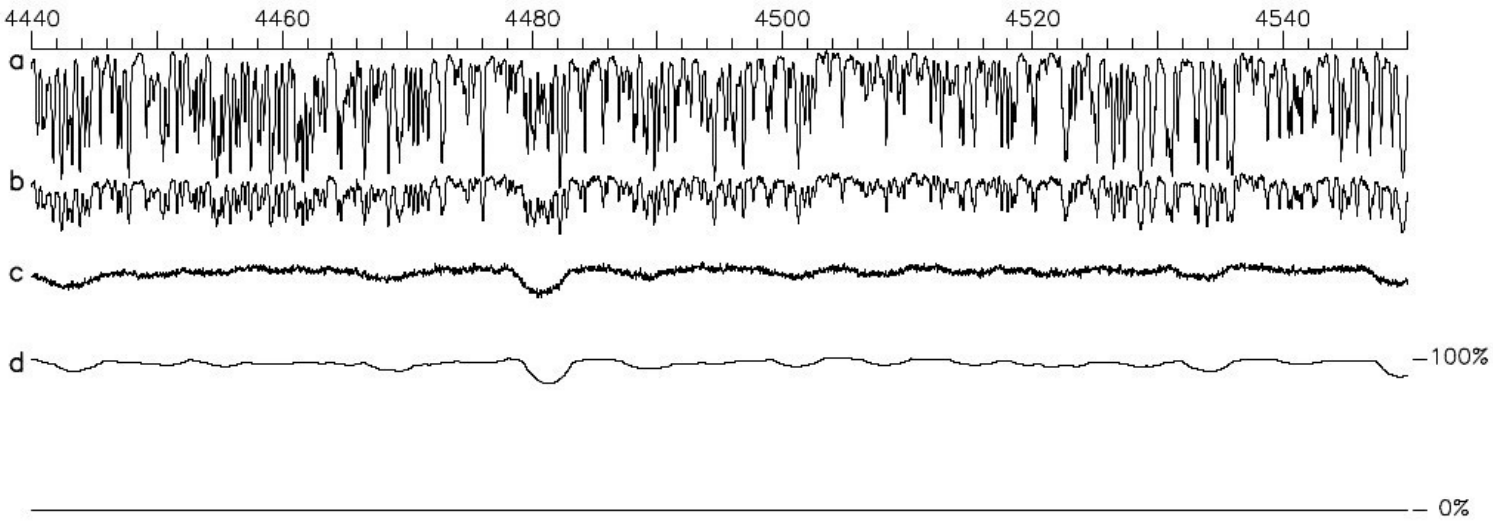
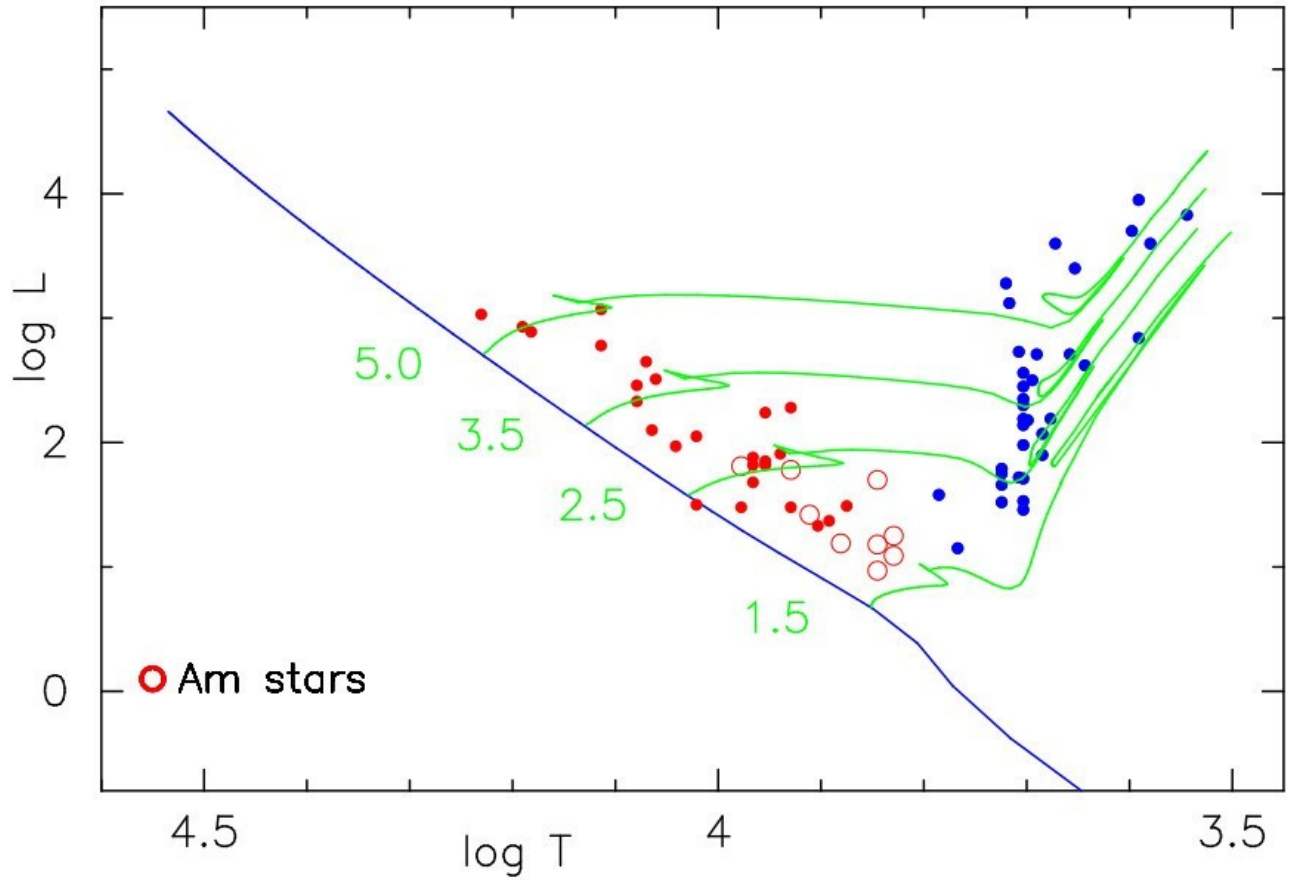

log L
4
2
0
4.5
log T
4
3.5
5.0
3.5
2.5
1.5
3 Boo
omicron Leo

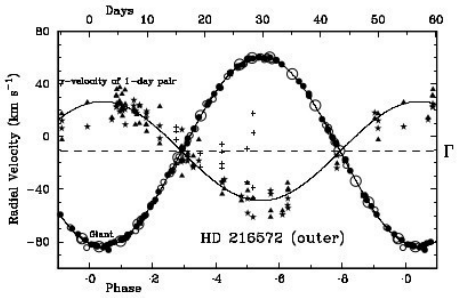

4440
4460
4480
4500
4520
4540
a
b
c
d
100%
0%


log L
4
2
0
4.5
log T
4
3.5
5.0
3.5
2.5
1.5
Am stars

Sample of 45 Composite-Spectrum Binaries

	Cool Primary (*evolved*)	Hotter Secondary (*much less evolved*) **
1. Range of spectral types	**G0 – M2**	**B5 – F2**
2. Am stars	**1** (*o Leo*)	**9 (20%)**
3. Range of periods	**14 days – 65 years:** **11 (24%) < 120 days** **12 (27%) 0.3–3 years** **22 (49%) > 3 years**	
4. Triple systems	**6, maybe 7 (14%)**	
5. Eclipsing systems	**8 (18%)**	
6. Astrometric orbits (*in addition to those in 5*)	**8 (18%)**	

** *Except for o Leo, the components are separated by the Hertzsprung Gap*



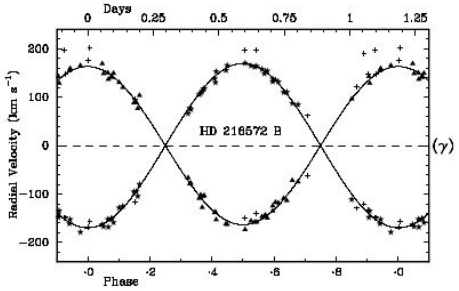
OUTER ORBIT :

$m_1 \sin^3 i = 2.625\ M_\odot$

$m_2 \sin^3 i = 5.003\ M_\odot$

We find i_o is near 81°

HD 216572

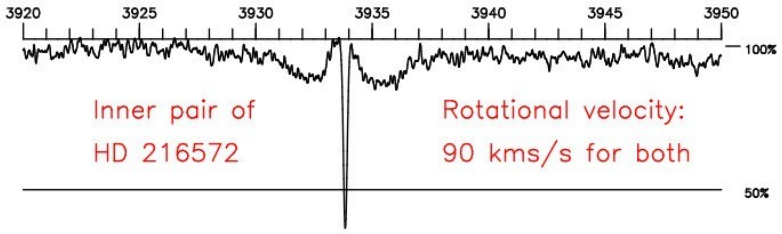


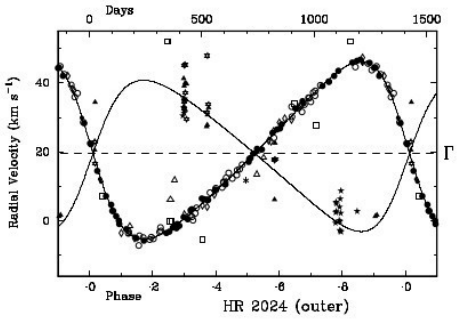
INNER ORBIT :

$m_1 \sin^3 i = 2.319\ M_\odot$
$m_2 \sin^3 i = 2.232\ M_\odot$

$m_1 + m_2 = 4.55\ M_\odot$

We know $i_i = 75°$





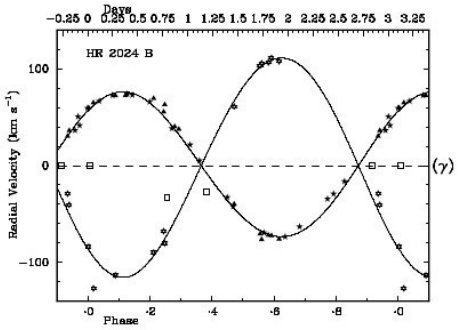
OUTER ORBIT :

$m_1 \sin^3 i = 6.245\ M_\odot$

$m_2 \sin^3 i = 7.374\ M_\odot$

Suppose $i_o = 85^o$

HR 2024

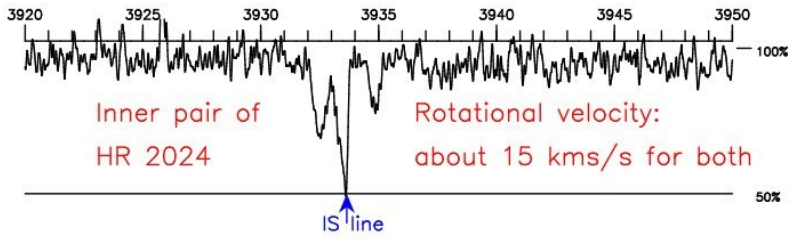


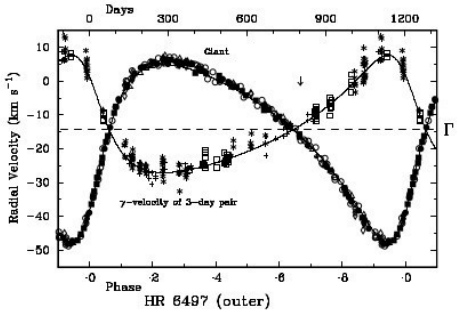
INNER ORBIT :

$m_1 \sin^3 i = 1.292\ M_\odot$
$m_2 \sin^3 i = 0.853\ M_\odot$

$m_1 + m_2 = 2.145\ M_\odot$

Then $i_i = 41^o$





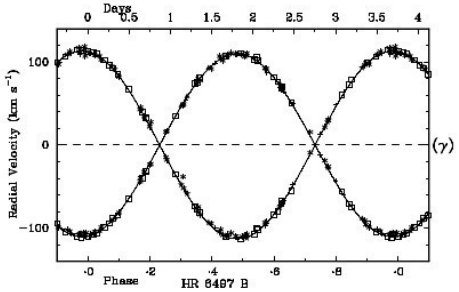
OUTER ORBIT :

$m_1 \sin^3 i = 3.06\ M_\odot$

$m_2 \sin^3 i = 4.97\ M_\odot$

We find $i_o = 80^o$

HR 6497

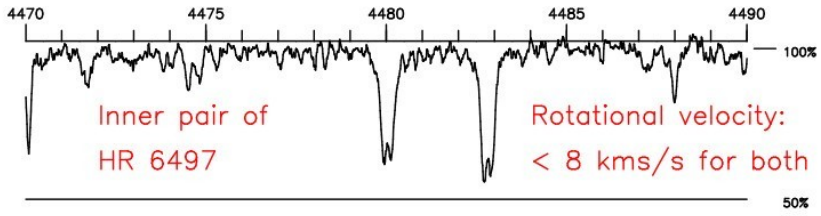


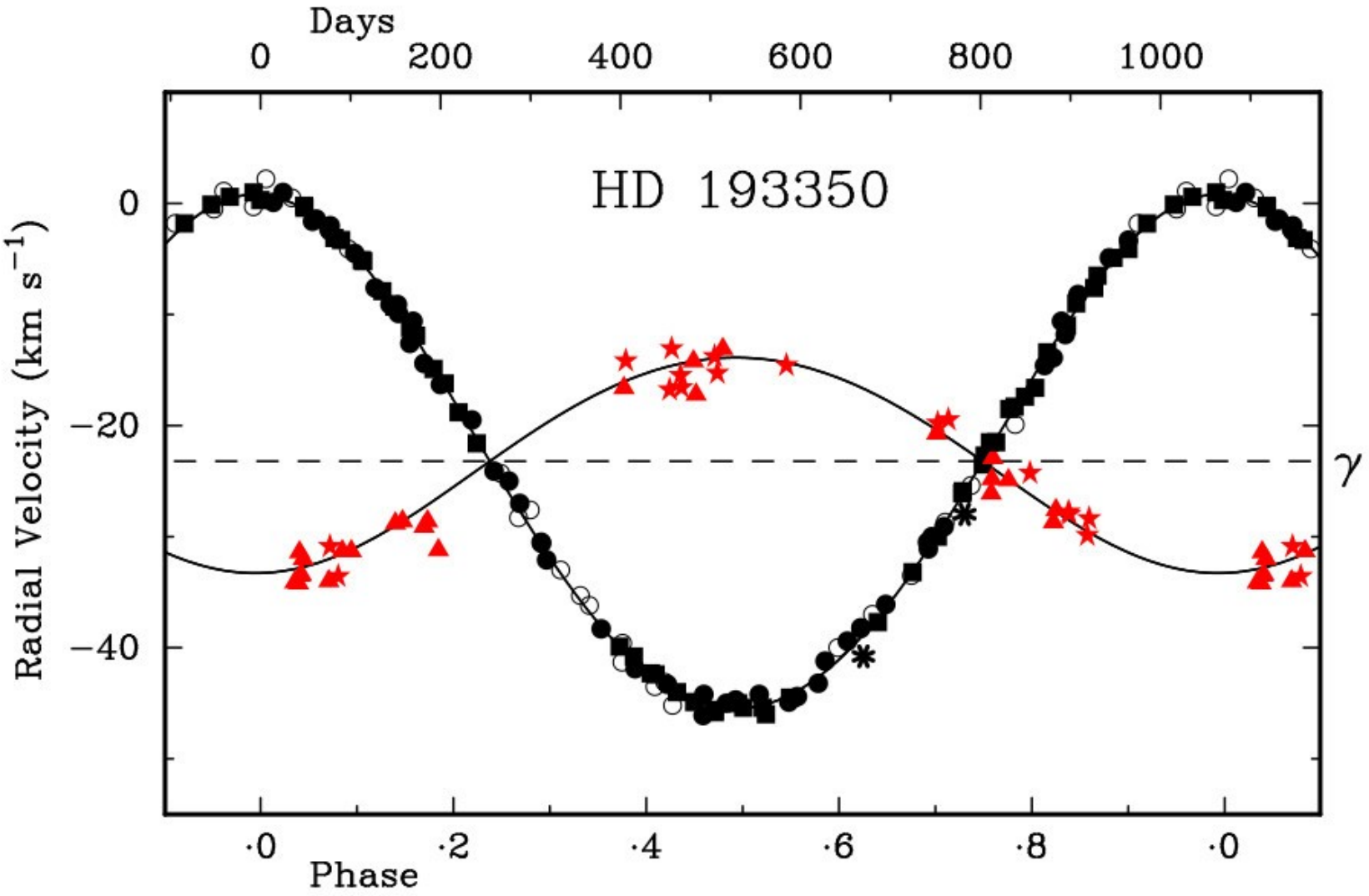
INNER ORBIT :

$m_1 \sin^3 i = 2.21\ M_\odot$
$m_2 \sin^3 i = 2.15\ M_\odot$

$m_1 + m_2 = 4.36\ M_\odot$

We find $i_i = 72^o$




Days
0
200
400
600
800
1000
HD 193350
0
−20
−40
Radial Velocity (km s^{-1})
γ
·0
·2
·4
·6
·8
·0
Phase