CHARA Collaboration Year-Three Science Review

with your host

Dave “Lister” Berger
Dwarfish Doings

• April '06: CHRAA Classic observing

• June '06: CHARA IV published in ApJ

• July '06: CHARA Classic observing

• Nov '06: contributed talk at Cool Stars Conference

• Nov '06: CHARA FLUOR observing

• Feb '07: Sky and Telescope feature article w/ Jason and Nils
Time Allocations

“Confirming the Angular Sizes of M-Dwarfs GJ 514 and GJ 526”

Berger (Michigan), ten Brummelaar (CHARA), Henry & Gies (GSU)

Allocation: 3 nights, 2006 April 17-19
Time Allocations

“Stellar Diameters of K- and M-type Main Sequence Stars”
Berger (Michigan), van Belle (MSC), Gies & Henry (GSU)
Allocation: 6 nights, 2006 July 21-26
GJ 514 and GJ 526

- confirm CHARA IV: similar K-band luminosities and metallicities, but different linear and angular sizes
- not predicted by models
- $\rho \sim 6^\circ$ -> similar transfer function
- 2 out of 3 nights of data
- error bars $\sim 5\%$
- S1/E1, Ks-band
• transfer functions overlap better using model values
• however, systematics dominate
• beware of the NIRO alignment!
• 35-min offset - field rotation?
• best observing practices?
GJ 725A & B

- M3V and M3.5V, r=12.5", CPM binary, low metallicity [Fe/H]~-0.3
- poor weather/tech issues; 2 of 6 nights were marginal
- Calibrators: no fringes on one and the other *may* be an SB2 (Brian and Bill are on the case)
GJ 250A

- K3V, $m_K=4.17$, $[\text{Fe/H}]=-0.15$
- NICMOS chip collateral damage
- Antoine salvages the run with several calibrated points (FLUOR+NIRO)
- UD=0.672+-0.013 mas
- using Hipparcos plx: $R=0.66$ Rsun

graphic courtesy Antoine Merand
• 6 nights allocated for 2007-1
• CHARA Classic in H and K band (yeah for J?)
• next year: VEGA? CHAMP + MIRC?
ENJOY THE SNOW!
THANKS FOR A GREAT MEETING!