MOTIVATION OF THE PROGRAM

- Determine how the planet formation process depends on the mass of the star (BY TARGETING EVOLVED SYSTEMS M>1M_{SUN}.)
- Explore the chemistry of planet formation (WE GO TO LOW Z).
- Test the physics of star-planet interaction processes: tidal forces (WE HAVE THE THEORY TOOLS).
- Explore the diversity of planetary systems.



RV VARIABLES AND LOW ACTIVIVITY FROM THE 1000 PTPS PROGRAM CARRIED OUT AT THE HOBBY-EBERLY TELESCOPE OVER 10 YEARS



26 OBSERVING NIGHTS OVER 3 YEARS (2-3 LOST TO WEATHER) 7 PLANETS AND 3 NEW CANDIDATES 6 PAPERS PUBLISHED UNDER THE TAPAS PROJECT 3 MORE PAPERS IN PREP WITH 5-8 MORE PLANETS

- TAPAS I: second most evolved multiple planetary system found around a giant star (Niedzielski, Villaver et al. 2015)
- TAPAS II: Super Li-rich giant HD 107028 (Adamow et al. 2015)
- TAPAS III: 2 cool giants with warm companions (Niedzielski, Villaver etal. 17)
 BD+15 2735 b is the lightest planet to an evolved star RV detected.
 HD 5583 b tightest orbit a = 0.529 AU around a 1.2 Msun evolved star RV detected.
- TAPAS IV: warm (HOT) jupiter TYC 3667-1280-1, (Niedzielski, Villaver et al. 2016)
 A&A letter

TAPAS V

A Massive Jupiter orbiting the very low metallicity giant star BD+03 2562 and a possible planet around HD 103485.

Villaver, Niedzielski et al. (2017)



Two very evolved giant stars with very low metallicities that host a massive "warm" Jupiters and thus represent rather extreme outliers to the general planet-metallicity relation

TAPAS VI:

HD 238914 AND TYC 3318-01333-1 - TWO MORE LI-RICH GIANTS WITH PLANETS

- Two new planetary systems around Li-rich giants HD 238914 and TYC 3318-01333-1
- Report binary Li-rich giant, но 181368
- Possible planets TYC 3663-01966-1 and TYC. 3105-00152-1 no full orbital coverage yet.
- We found 7 out 15 among the 15 Li-rich giant stars with planetary companions.
 Planet frequency is twice that of the general sample.
- 15 stars analyzed





