# E-ELT first light science 2020+

# Planets everywhere on all types of "bright" stars

"M stars bias" next frontier is on biomarkers aspects

## High growth rate field of research:

today: cloud, weather, super-Earth, remote systems what about tomorrow: ALMA, SPHERE, GPI, 8M MOSs, NGTS, Speculoos, Xtra, Mearth, Espresso, Carmenes, CRIRES,...
TESS, CHEOPS, JWST, GAIA,...

Synergies seems of the essence of future major progresses

# To enter the club you need a 10<sup>5</sup> entry ticket:

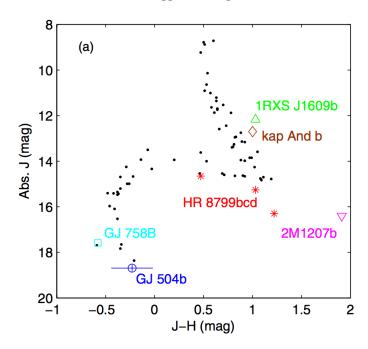
high contrast, high precision, high resolution, high SN

#### E-ELT:

first light instruments: MICADO and HARMONI We heard a lot about HIRES and METIS "make use of unique  $\lambda/D$  and 42 yard mirror diameter"

### What about GMT – TMT?

THE ASTROPHYSICAL JOURNAL, 774:11 (18pp), 2013 September 1



Kuzuhara 2013

parallax is less than 42 per cent of the parallax itself, so that the probable error of the resulting absolute magnitude is less than  $\pm\,1^m.0.$ 

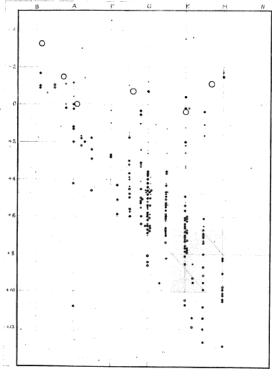


FIGURE 1.

This is a fairly tolerant criterion for a "good parallax", and the small dots, representing the results derived from the poor parallaxes, should hardly be used as a basis for any argument. The solid black dots represent stars whose parallaxes depend on the mean of two or more determinations; the open circles, those observed but once. In the latter case, only the results of those observers whose work appears to