Team project #1

Looking for transits on known RV targets

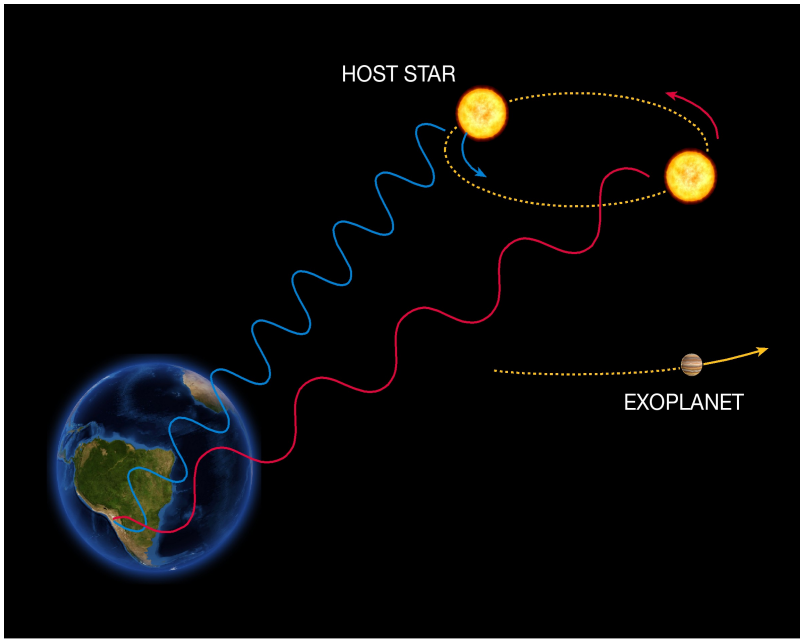
RV sample = high probability of transit + transit time is known

Several 100s identified by RV
→ some of them must transit (how many ?)
RV + transit → mass, diameter → density
transit spectroscopy ?
transit timing variations ?

What kind of telescope(s) ? instrument ?
Do you make custom telescope(s),
or buy existing hardware ?

Describe observation plan.
Cost ? manpower ?
How many transits expected ? what kind of planets ?

You may also propose to add RV observations to project



The Radial Velocity Method

Team project #2

Ambitious ground-based transit survey

Goal: find most (all) transits around bright stars

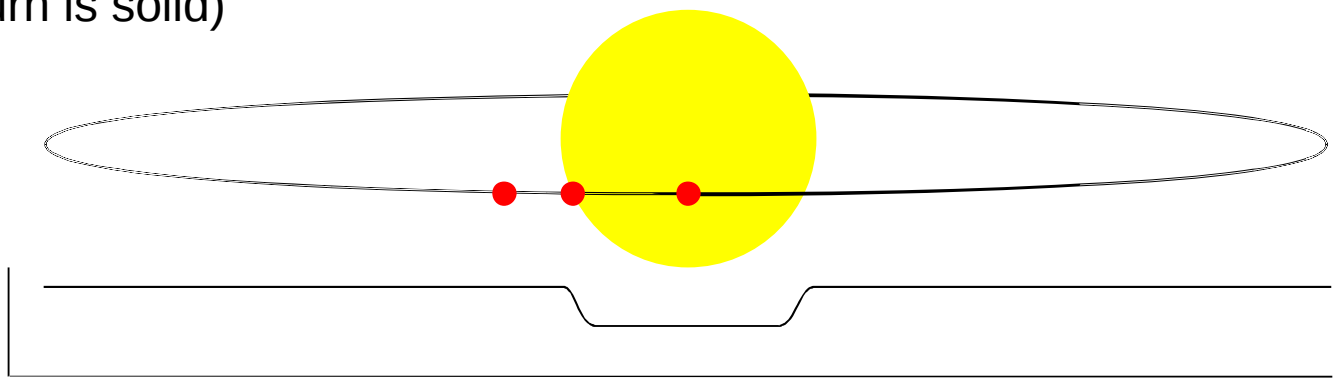
Requirement: detect most large (1% deep transits) around m_V<15 stars → build catalog for follow-up observations

Can you find (many) Rocky planets from the ground using transit technique ?

What kind of telescopes, how many, where ?

Observation scenario ?

Cost (can be high is science return is solid)



Team project #3

Help team #2 with confirmation and mass measurement of planets discovered by transits

Team #2 finds many many transits – or transit-like events

Your job:
(1) Identify false positives (color, RV, astrometry, imaging)
(2) Measure masses for a large number of transits (RV, TTV ?) - when possible