

# Identification of terrestrial planets

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MAJOR GOAL: search for **biosignatures** in:

- **terrestrial** planets
- **HZ** of stars (best: F,G,K)
- thanks to spectroscopy ==> **D < 25 pc**

HOW TO?

1. Estimate mean number of such planets ( $\eta_{\text{earth}}$ )

**Kepler** should (will) do it, at **D > 100 pc**

2. **Nominate** members of target list for the spectroscopical mission(s), with:

- Terrestrial ( $M_{\text{pl}}, R_{\text{pl}}$ )
- F, G, K stars (best spectral types)
- **D < 25 pc**

**=> NEAT = only tool**

HOW TO? (2)

3. Perform spectroscopy (Visible and IR, sequentially)

==> Would answer one of the **most profound questions of today science**

## ADVANTAGES

1. results by NEAT ==> strong arguments for **agencies** to select a **spectroscopical exoplanet** mission, rather than an additional cosmological one...

e.g. there is a  $2 M_{\text{earth}}$  planet at 1.2 AU from  $\tau$  Ceti,  
what shall we do?

2. The search for targets is no more performed by the flagship mission
  - ⇒ makes mission robust
  - ⇒ saves mission's time