

1 January 2024  
 5571 exoplanets  
 (4134 systems, 949 multiple)  
 [numbers from NASA Exoplanet Archive]

# Exoplanet Detection Methods

## Indirect/ miscellaneous

- protoplanetary disks
- " rotation curves
- debris disks/colliding planetesimals
- star accretion/pollution
- white dwarf pollution
- radio emission
- X-ray emission
- gravitational waves
- orbit modulation

## Dynamical

## Microlensing

## Photometry

## Imaging

## Transits

decreasing planet mass

10M<sub>J</sub>  
 M<sub>J</sub>  
 10M<sub>⊕</sub>  
 M<sub>⊕</sub>

Discoveries:

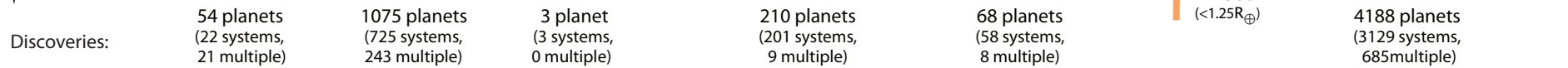
— existing capability

⋯ projected

n = planets known

→ discoveries

⇨ follow-up detections



54 planets  
 (22 systems,  
 21 multiple)

1075 planets  
 (725 systems,  
 243 multiple)

3 planet  
 (3 systems,  
 0 multiple)

210 planets  
 (201 systems,  
 9 multiple)

68 planets  
 (58 systems,  
 8 multiple)

~500  
 (<1.25R<sub>⊕</sub>)

4188 planets  
 (3129 systems,  
 685 multiple)

3771  
 (Kepler: 2833, K2: 483, TESS:  
 413, CoRoT: 34, Gaia: 2)

space

ground

reflected/  
polarised light

Timing

Radial velocity

Astrometry

Imaging

Transits

pulsars

white  
dwarfs

pulsating

eclipsing  
binaries

TTVs

optical

radio

astrometric

photometric

disk kinematics

space

ground

reflected/  
polarised light

slow

2

17

28

space

ground

space

space

ground

1

7

61

ground  
(adaptive  
optics)

→

⇨

⇨

⇨

millisec

7

1075

←

1

←

2

←

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free-  
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210

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