

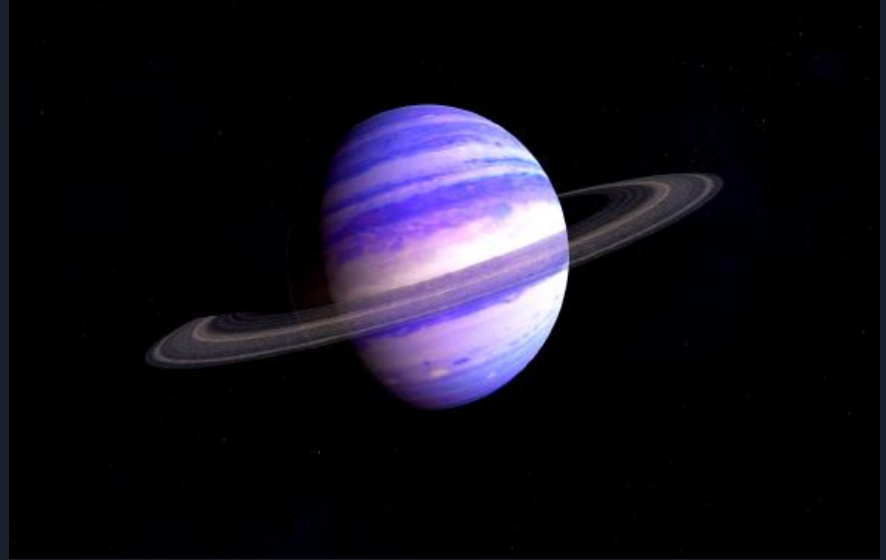
A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light greenish-blue. They are positioned diagonally, with the blue one partially covering the green one.

Exoplanets: The Search for Another Earth

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Background Information

- What is an Exoplanet? Why do we care?
- How do we find them?
- Our Instruments/techniques have improved significantly.



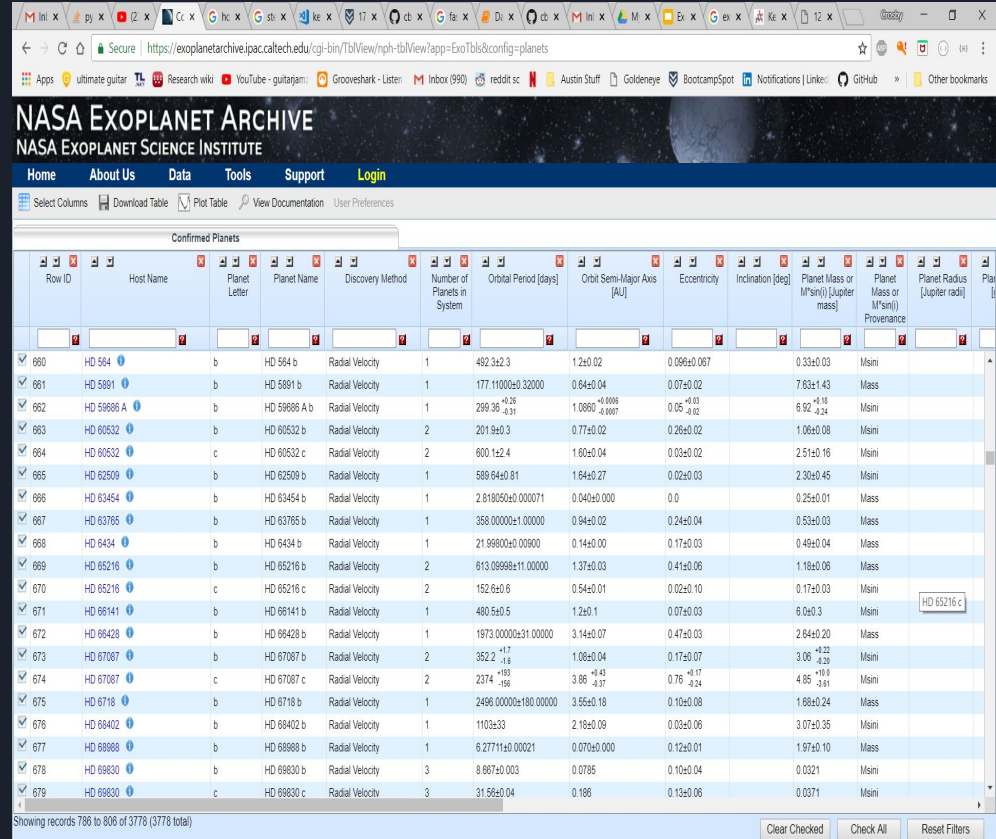


Project Goals

- Find cool and simple ways to animate and visualize Exoplanet data looking for planets similar to Earth.
- Find out if any of these planets are in our stellar neighborhood
- Put the information in units that would be familiar to non-scientists.

Data Acquisition and Cleanup

- NASA Confirmed Exoplanet Database
- <https://exoplanetarchive.ipac.caltech.edu/cgi-bin/TblView/nph-tblView?app=ExoTbls&config=planets>
- Started with: Planet Name, Orbital Period, Semi-Major Axis, Planet radius, Distance to Star, Effective Temperature (star), Stellar Mass, Spectral Type
- Calculated: Orbital Velocity, Minimum Travel Time.
- Changed units: Semi-Major Axis, Planet Radius, Distance to Star.
- Reduced large numbers proportionally.



NASA EXOPLANET ARCHIVE
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Confirmed Planets

Row ID	Host Name	Planet Letter	Planet Name	Discovery Method	Number of Planets in System	Orbital Period (days)	Orbit Semi-Major Axis (AU)	Eccentricity	Inclination (deg)	Planet Mass or M(Jup)	Planet Mass or M(sun)	Planet Radius (Jup radii)	Planet Radius (Earth radii)
660	HD 564	b	HD 564 b	Radial Velocity	1	492.3±2.3	1.2±0.02	0.096±0.067		0.33±0.03	Msini		
661	HD 5891	b	HD 5891 b	Radial Velocity	1	177.1100±0.32000	0.64±0.04	0.07±0.02		7.63±1.43	Mass		
662	HD 59686 A	b	HD 59686 A b	Radial Velocity	1	299.36 ^{+0.28} _{-0.31}	1.0890 ^{+0.0008} _{-0.0007}	0.05 ^{+0.03} _{-0.02}		6.92 ^{+1.18} _{-0.24}	Msini		
663	HD 60532	b	HD 60532 b	Radial Velocity	2	201.9±0.3	0.77±0.02	0.28±0.02		1.06±0.08	Msini		
664	HD 60532	c	HD 60532 c	Radial Velocity	2	800.1±2.4	1.60±0.04	0.03±0.02		2.51±0.16	Msini		
665	HD 62509	b	HD 62509 b	Radial Velocity	1	589.64±0.81	1.64±0.27	0.02±0.03		2.30±0.45	Msini		
666	HD 63454	b	HD 63454 b	Radial Velocity	1	2.818050±0.000071	0.040±0.000	0.0		0.25±0.01	Mass		
667	HD 63765	b	HD 63765 b	Radial Velocity	1	358.00000±1.00000	0.94±0.02	0.24±0.04		0.53±0.03	Mass		
668	HD 6434	b	HD 6434 b	Radial Velocity	1	21.98800±0.00900	0.14±0.03	0.17±0.03		0.48±0.04	Mass		
669	HD 65216	b	HD 65216 b	Radial Velocity	2	613.09998±11.00000	1.37±0.03	0.41±0.06		1.18±0.06	Mass		
670	HD 65216	c	HD 65216 c	Radial Velocity	2	152.6±0.6	0.54±0.01	0.02±0.10		0.17±0.03	Msini		
671	HD 66141	b	HD 66141 b	Radial Velocity	1	480.5±0.5	1.2±0.1	0.07±0.03		6.0±0.3	Msini		
672	HD 66428	b	HD 66428 b	Radial Velocity	1	1973.00000±31.00000	3.14±0.07	0.47±0.03		2.64±0.20	Mass		
673	HD 67067	b	HD 67067 b	Radial Velocity	2	352.2 ^{+1.7} _{-1.8}	1.08±0.04	0.17±0.07		3.06 ^{+0.22} _{-0.20}	Msini		
674	HD 67067	c	HD 67067 c	Radial Velocity	2	2374 ⁺¹⁰⁰ ₋₁₅₆	3.86 ^{+4.0} _{-3.7}	0.76 ^{+0.17} _{-0.24}		4.85 ^{+10.0} _{-3.61}	Msini		
675	HD 6718	b	HD 6718 b	Radial Velocity	1	2498.00000±180.00000	3.55±0.18	0.10±0.08		1.68±0.24	Mass		
676	HD 68402	b	HD 68402 b	Radial Velocity	1	1103±33	2.18±0.09	0.03±0.06		3.07±0.35	Msini		
677	HD 68868	b	HD 68868 b	Radial Velocity	1	6.27711±0.00021	0.070±0.000	0.12±0.01		1.97±0.10	Mass		
678	HD 69630	b	HD 69630 b	Radial Velocity	3	8.867±0.003	0.0785	0.10±0.04		0.0321	Msini		
679	HD 69630	c	HD 69630 c	Radial Velocity	3	31.5±0.04	0.186	0.13±0.06		0.0371	Msini		

Showing records 786 to 806 of 3778 (3778 total)

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