**PHL**

**MAPPING THE HABITABLE UNIVERSE**

| | Search this site |
|---|---|

## Content

Home
Projects
LabNotes
Press Releases
In the News
Outreach
Media
Library
Software Tools
Data
Opportunities
Centers
About

**PHL** (Twitter)

## Main Projects

Habitable Exoplanets
Visible Paleo-Earth

## Astrobiology Centers

NASA Astrobiology
ACA (Australia)
CAB (Spain)
IA (Colombia)
REDESPA (Spain)

## Exoplanets Links

Planet Quest
NASA EEP
NExScl
Exoplanets Enciclopedia
Exoplanet Data Explorer
NStED

## Astrobiology Seminars

NAI Seminar Series
STSci Webcasts
SETI Colloquium
Stanford Astrobiology

## Astrobiology Societies

ISSOL (International)
EANA (Europe)
Astrobiology Society (US)
SFE (France)
ASB (UK)

## Astrobiology News

Astrobiology Magazine
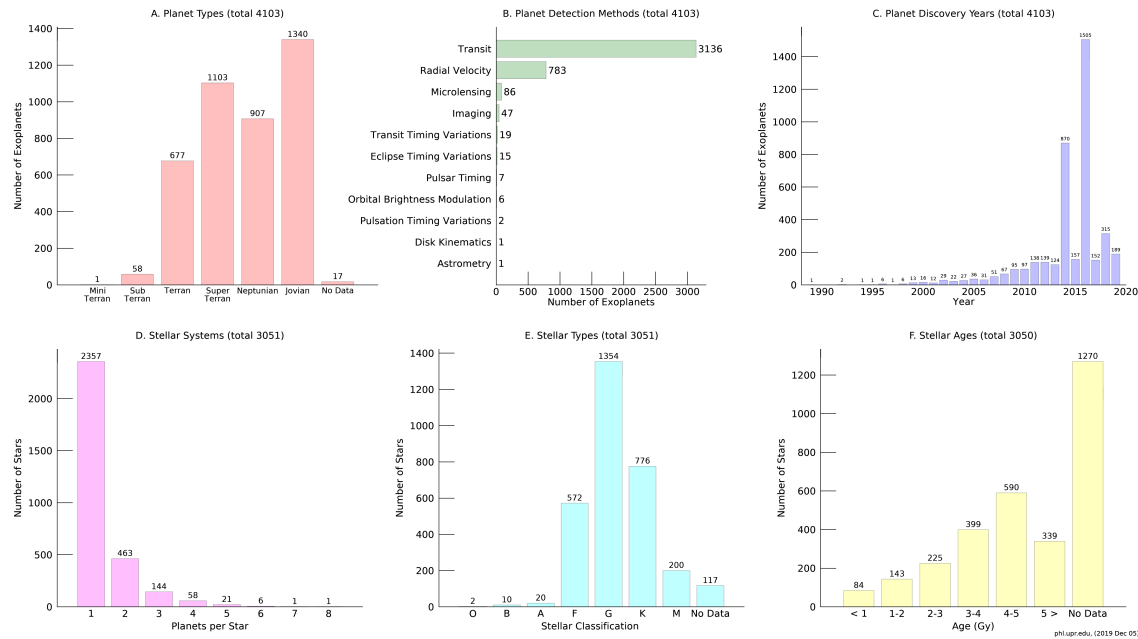Astrobiology Web
Astrobiology Network
Intl. Astrobiology Newsl.

## Local Sites

UPR Arecibo
UPR
Arecibo Observatory
NASA PRSGC
PR-LSAMP
CienciaPR

# PHL's Exoplanets Catalog

**Last Update: December 5, 2019**



## Introduction

The PHL's Exoplanets Catalog (PHL-EC) contains observed and modeled parameters for all currently confirmed exoplanets derived from the NASA Exoplanet Archive, including those potentially habitable. The main difference between PHL-EC and other exoplanets databases is that it contains estimated parameters, habitability assessments, and planetary classifications. The catalog is available as a comma separated value format (CSV) file in the link below.

**Version 20191205: phl_exoplanet_catalog.csv**

**Known Issues:** Many fields are in machine precision with unnecessary zeros. Fields are not sorted, e.g. planetary data first and then stellar properties. There are a few missing fields from the previous catalog, e.g. estimated surface temperature. All these minor issues should be corrected in a future version. Please report any other issues to abel.mendez@upr.edu.

## Database Field Descriptions

```
P_NAME - planet name
P_STATUS - planet status (confirmed = 3)
P_MASS - planet mass (earth masses)
P_MASS_ERROR_MIN - planet mass error min (earth masses)
P_MASS_ERROR_MAX - planet mass error max (earth masses)
P_RADIUS - planet radius (earth radii)
P_RADIUS_ERROR_MIN - planet radius error min (earth radii)
P_RADIUS_ERROR_MAX - planet radius error max (earth radii)
P_YEAR - planet discovered year
P_UPDATED - planet data last update date
P_PERIOD - planet period (days)
P_PERIOD_ERROR_MIN - planet period error min (days)
P_PERIOD_ERROR_MAX - planet period error max (days)
P_SEMI_MAJOR_AXIS - planet semi-major axis (AU)
P_SEMI_MAJOR_AXIS_ERROR_MIN - planet semi-major axis error min (AU)
P_SEMI_MAJOR_AXIS_ERROR_MAX - planet semi-major axis error max (AU)
P_ECCENTRICITY - planet eccentricity
P_ECCENTRICITY_ERROR_MIN - planet eccentricity error min
P_ECCENTRICITY_ERROR_MAX - planet eccentricity error max
P_INCLINATION - planet orbital inclination (deg)
P_INCLINATION_ERROR_MIN - planet orbital inclination error min (deg)
P_INCLINATION_ERROR_MAX - planet orbital inclination error max (deg)
P_OMEGA - planet argument of periastron (deg)
P_OMEGA_ERROR_MIN - planet argument of periastron error min (deg)
P_OMEGA_ERROR_MAX - planet argument of periastron omega error max (deg)
P_TPERI - planet time of periastron (seconds)
```

Traduci

```
P_TPERI_ERROR_MIN - planet time of periastron error min (seconds)
P_TPERI_ERROR_MAX - planet time of periastron error max (seconds)
P_ANGULAR_DISTANCE - planet-star angular separation (arcsec)
P_IMPACT_PARAMETER - planet impact parameter
P_IMPACT_PARAMETER_ERROR_MIN - planet impact parameter error min
P_IMPACT_PARAMETER_ERROR_MAX - planet impact parameter error max
P_TEMP_MEASURED - planet measured equilibrium temperature (K)
P_GEO_ALBEDO - planet measured geometric albedo
P_GEO_ALBEDO_ERROR_MIN - planet measured geometric albedo error min
P_GEO_ALBEDO_ERROR_MAX - planet measured geometric albedo error max
P_DETECTION - planet detection method
P_DETECTION_MASS - planet detection method for mass
P_DETECTION_RADIUS - planet detection method for radius
P_ALT_NAMES - planet alternate names
P_ATMOSPHERE - planet atmosphere composition (no data yet)
S_NAME - star name
S_RA - star right ascension (decimal deg)
S_DEC - star declination (decimal deg)
S_MAG - star magnitude
S_DISTANCE - star distance (parsecs)
S_DISTANCE_ERROR_MIN - star distance error min (parsecs)
S_DISTANCE_ERROR_MAX - star distance error max (parsecs)
S_METALLICITY - star metallicity (dex)
S_METALLICITY_ERROR_MIN - star metallicity error min (dex)
S_METALLICITY_ERROR_MAX - star metallicity error max (dex)
S_MASS - star mass (solar units)
S_MASS_ERROR_MIN - star mass error min (solar units)
S_MASS_ERROR_MAX - star mass error max (solar units)
S_RADIUS - star radius (solar units)
S_RADIUS_ERROR_MIN - star radius error min (solar units)
S_RADIUS_ERROR_MAX - star radius error max (solar units)
S_TYPE - star spectral type
S_AGE - star age (Gy)
S_AGE_ERROR_MIN - star age error min (Gy)
S_AGE_ERROR_MAX - star age error max (Gy)
S_TEMPERATURE - star effective temperature (K)
S_TEMPERATURE_ERROR_MIN - star effective temperature error min (K)
S_TEMPERATURE_ERROR_MAX - star effective temperature error min (K)
S_DISC - star stellar disc presence (no data)
S_MAGNETIC_FIELD - star magnetic field presence (no data)
S_LOG_G - star log(g)
S_ALT_NAMES - star alternative names
P_ESCAPE - planet escape velocity (earth units)
P_POTENTIAL - planet gravitational potential (earth units)
P_GRAVITY - planet gravity (earth units)
P_DENSITY - planet density (earth units)
P_HILL_SPHERE - planet hill sphere (AU)
P_DISTANCE - planet mean distance from the star (AU)
P_PERIASTRON - planet periastron (AU)
P_APASTRON - planet apastron (AU)
P_DISTANCE_EFF - planet effective thermal distance from the star (AU)
P_FLUX - planet mean stellar flux (earth units)
P_FLUX_MIN - planet minimun orbital stellar flux (earth units)
P_FLUX_MAX - planet maximum orbital stellar flux (earth units)
P_TEMP_EQUIL - planet equilibrium temperature assuming bond albedo 0.3 (K)
P_TEMP_EQUIL_MIN - planet minimum equilibrium temperature assuming bond albedo 0.3 (K)
P_TEMP_EQUIL_MAX - planet maximum equilibrium temperature assuming bond albedo 0.3 (K)
P_TYPE - planet type (PHL's mass-radius classification)
S_RADIUS_EST - star radius estimated (solar units)
S_TYPE_TEMP - star spectral type (simplify one letter)
S_RA_H - star right ascension (decimal hours)
S_RA_T - star declination (hours)
S_DEC_T - star right ascension (degrees)
S_LUMINOSITY - star luminosity (solar units)
S_HZ_OPT_MIN - star inner edged of the optimistic habitable zone (AU)
S_HZ_OPT_MAX - star outer edged of the optimistic habitable zone (AU)
S_HZ_CON_MIN - star inner edged of the conservative habitable zone (AU)
S_HZ_CON_MAX - star outer edged of the conservative habitable zone (AU)
S_HZ_CON0_MIN - star inner edged of the conservative habitable zone, mass = 0.1 Me (AU)
S_HZ_CON0_MAX - star outer edged of the conservative habitable zone, mass = 0.1 Me (AU)
S_HZ_CON1_MIN - star inner edged of the conservative habitable zone, mass = 5 Me (AU)
S_HZ_CON1_MAX - star outer edged of the conservative habitable zone, mass = 5 Me (AU)
S_SNOW_LINE - star snow line (AU)
S_ABIO_ZONE - star abiogenesis zone outer edge (AU)
S_TIDAL_LOCK - star tidal lock zone outer edge (AU)
P_HABZONE_OPT - the planet is in the optimistic habitable zone flag (1 = yes)
P_HABZONE_CON - the planet is in the conservative habitable zone flag (1 = yes)
P_TYPE_TEMP - planet thermal type (PHL's thermal classification)
P_HABITABLE - planet is potentially habitable index (1 = conservative, 2 = optimistic)
P_ESI - planet Earth Similarity Index
S_CONSTELLATION - star constellation name
S_CONSTELLATION_ABR - star constellation abreviated
S_CONSTELLATION_ENG - star constellation name meaning
P_RADIUS_EST - planet radius estimated from mass-radius relation (earth units)
P_MASS_EST - planet mass estimated from mass-radius relation (earth units)
P_SEMI_MAJOR_AXIS_EST - planet semi-major axis estimated (AU)
```

DISCLAIMER: The *PHL's Exoplanets Catalog* combines measured and modeled parameters from various sources. It is good for visualizations, statistical analyses, and education. For research purposes always check measured vs modeled values from the