Space Tracking Ontology

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Authors:
Daniele Migliore Camilleri
Stefano Cocomazzi

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Ontology source

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Introduction

Ontology made to organize and track astronomical objects all around the solar system and beyond

Classes

Aerocentric Artificial Satellite Asteroid Astronomical Object Black Hole Comet Dwarf Planet Geocentric Giant Planet Habitable Planet Heliocentric Inhabitable Planet Lunar Natural Satellite Orbiter Planet Pulsar Satellite Solar System Planet Star Terrestrial Planet White Dwarf Yellow Dwarf

Aerocentric[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Areocentric

is equivalent to
Has Orbit Center[op] **some** Planet[c] **and** (Name[dp] **value** Mars)

has super-classes

Orbiter[c]

is disjoint with

Geocentric[c], Heliocentric[c], Lunar[c]

An Aerocentric Orbiter is an Astronomical Object that orbits around the planet Mars

Artificial Satellite[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Artificial_Satellite

A man-made apparatus designed to be placed in orbit around a celestial body, generally to relay information, data etc. to Earth.

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has super-classes

Satellite[c]

is disjoint with

Natural Satellite[c]

A man-made apparatus designed to be placed in orbit around a celestial body, generally to relay information, data etc. to Earth.

Asteroid[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Asteroid

---

has super-classes

Astronomical Object[c]

is disjoint with

Comet[c], Dwarf Planet[c], Natural Satellite[c], Planet[c], Star[c]

Asteroids are actually minor planets which can neither be classified either as a planet or as a comet.

Astronomical Object[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Astronomical_Object

---

has sub-classes

Asteroid[c], Comet[c], Dwarf Planet[c], Natural Satellite[c], Planet[c], Star[c]

is in domain of

Has Orbit Center[op], Orbited By[op], Orbits Around[op], is bigger than[op]

is in range of

Has Orbit Center[op], Orbited By[op], Orbits Around[op], is bigger than[op]

has members

Aegaeon[ni], Amalthea[ni], Andrastea[ni], Anthe[ni], Ariel[ni], Atlas[ni], Callisto[ni], Calypso[ni], Daphins[ni], Dione[ni], Enceladus[ni], Epimetheus[ni], Europa[ni], Ganymede[ni], Helene[ni], Hyperion[ni], Iapetus[ni], Io[ni], Janus[ni], Jupiter[ni], Mars[ni], Methone[ni], Metis[ni], Mimas[ni], Miranda[ni], Neptune[ni], Nereid[ni], Oberon[ni], Pallene[ni], Pan[ni], Pandora[ni], Phobos[ni], Phoebe[ni], Polyduce[ni], Prometheus[ni], Rhea[ni], Saturn[ni], Telesto[ni], Tethis[ni], Thebe[ni], Titan[ni], Titania[ni], Triton[ni], Umbriel[ni], Uranus[ni], deimos[ni]

Astronomical Body is a naturally occuring physical entity, association, or structure that exists in the observable universe.

Black Hole[C]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Black_Hole

has super-classes

Star[C]

is disjoint with

Pulsar[C], White Dwarf[C], Yellow Dwarf[C]

A black hole is a region of spacetime exhibiting gravitational acceleration so strong that nothing, no particles or even electromagnetic radiation such as light, can escape from it.

Comet[C]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Comet

has super-classes

Astronomical Object[C]

is disjoint with

Asteroid[C], Dwarf Planet[C], Natural Satellite[C], Planet[C], Star[C]

A comet is an icy, small Solar System body that, when passing close to the Sun, warms and begins to release gases, a process called outgassing.

Dwarf Planet[C]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Dwarf_Planet

has super-classes

Astronomical Object[C]

is disjoint with

Asteroid[C], Comet[C], Natural Satellite[C], Planet[C], Star[C]

A dwarf planet is a planetary-mass object that does not dominate its region of space and is not a satellite.

Geocentric[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Geocentric

is equivalent to

Has Orbit Center[op] **some** Planet[c] **and** (Name[dp] **value** Earth)

has super-classes

Orbiter[c]

is disjoint with

Aerocentric[c], Heliocentric[c], Lunar[c]

A Geocentric Orbiter is an Astronomical Object that orbits around the planet Earth

Giant Planet[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Giant_Planet

has super-classes

Planet[c]

is disjoint with

Terrestrial Planet[c]

A giant planet is any planet much larger than Earth.

Habitable Planet[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Habitable_Planet

is equivalent to

Solar System Planet[c] **and** (Semimajor Axis[dp] **some**)

has super-classes

Solar System Planet[c]

Habitable Planet is a planet that is able to develop and maintain environments hospitable to life.

Heliocentric[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Heliocentric

is defined by
http://stefanococomazzi.it/ontologies/space_tracking_ontology.owl

is equivalent to
Has Orbit Center[op] **some** Star[c] **and** (Name[dp] **value** Sun)

has super-classes
Orbiter[c]

is disjoint with
Aerocentric[c], Geocentric[c], Lunar[c]

An Aerocentric Orbiter is an Astronomical Object that orbits around the Star Sun

Inhabitable Planet[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Inhabitable_Planet

is equivalent to
(Solar System Planet[c] **and** (Semimajor Axis[dp] **some**)) **or** (Semimajor Axis[dp] **some**)

has super-classes
Solar System Planet[c]

Habitable Planet is a planet that is not able to develop and maintain environments hospitable to life.

Lunar[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Lunar

is defined by
http://stefanococomazzi.it/ontologies/space_tracking_ontology.owl

is equivalent to
Has Orbit Center[op] **some** Natural Satellite[c] **and** (Name[dp] **value** Moon)

has super-classes
Orbiter[c]

is disjoint with
Aerocentric[c], Geocentric[c], Heliocentric[c]

a Lunar Orbiter is an Astronomical Object that orbits around the Moon

Natural Satellite[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Natural_Satellite

A Natural Satellite is an astronomical body that orbits a planet or minor planet

has super-classes

Astronomical Object[c]

Satellite[c]

has members

Aegaeon[ni], Amalthea[ni], Andrastea[ni], Anthe[ni], Ariel[ni], Atlas[ni], Callisto[ni], Calypso[ni], Daphins[ni], Dione[ni], Enceladus[ni], Epimetheus[ni], Europa[ni], Ganymede[ni], Helene[ni], Hyperion[ni], Iapetus[ni], Io[ni], Janus[ni], Methone[ni], Metis[ni], Mimas[ni], Miranda[ni], Nereid[ni], Oberon[ni], Pallene[ni], Pan[ni], Pandora[ni], Phobos[ni], Phoebe[ni], Polyduce[ni], Prometheus[ni], Rhea[ni], Telesto[ni], Tethis[ni], Thebe[ni], Titan[ni], Titania[ni], Triton[ni], Umbriel[ni], deimos[ni]

is disjoint with

Artificial Satellite[c], Asteroid[c], Comet[c], Dwarf Planet[c], Planet[c], Star[c]

Orbiter[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Orbiter

is equivalent to

Has Orbit Center[op] **some** Astronomical Object[c]

has sub-classes

Aerocentric[c], Geocentric[c], Heliocentric[c], Lunar[c]

is in domain of

Semimajor Axis[dp]

Orbiter is a thing that orbits around an astronomical body. They are defined by the astronomical body at the center of the orbit. The most common orbits are: "Geocentrisc", "Lunars", "Heliocntrics" and "Areocentrics".

Planet[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Planet

is defined by

https://www.wikidata.org/wiki/Q634

has super-classes

Astronomical Object[c]

has sub-classes

Giant Planet[c], Solar System Planet[c], Terrestrial Planet[c]

is disjoint with

Asteroid[c], Comet[c], Dwarf Planet[c], Natural Satellite[c], Star[c]

Pulsar[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Pulsar

has super-classes

Star[c]

is disjoint with

Black Hole[c], White Dwarf[c], Yellow Dwarf[c]

A pulsar is a highly magnetized rotating neutron star that emits beams of electromagnetic radiation out of its magnetic poles.

Satellite[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Satellite

is defined by

https://en.wiktionary.org/wiki/satellite

A Naturale Satellite is an astronomical body that orbits a planet or minor planet

has sub-classes

Artificial Satellite[c], Natural Satellite[c]

is in domain of

Has Orbit Center[op]

is in range of

Orbited By[op], Orbits Around[op]

has members

Aegaeon[ni], Amalthea[ni], Andrastea[ni], Anthe[ni], Ariel[ni], Atlas[ni], Callisto[ni], Calypso[ni], Daphins[ni], Dione[ni], Enceladus[ni], Epimetheus[ni], Europa[ni], Ganymede[ni], Helene[ni], Hyperion[ni], Iapetus[ni], Io[ni], Janus[ni], Jupiter[ni], Mars[ni], Methone[ni], Metis[ni], Mimas[ni], Miranda[ni], Neptune[ni], Nereid[ni], Oberon[ni], Pallene[ni], Pan[ni], Pandora[ni], Phobos[ni], Phoebe[ni], Polyduce[ni], Prometheus[ni], Rhea[ni], Saturn[ni], Telesto[ni], Tethis[ni], Thebe[ni], Titan[ni], Titania[ni], Triton[ni], Umbriel[ni], Uranus[ni], deimos[ni]

Solar System Planet[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Solar_System_Planet

is equivalent to

{ earth , Mercury , Neptune , Saturn , Jupiter , Uranus , Venus , Mars }

has super-classes

Planet[c]

has sub-classes

Habitable Planet[c], Inhabitable Planet[c]

Solar System Planet are all the planets that are in the solar system

Star[c]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Star

has super-classes

Astronomical Object[C]

has sub-classes

Black Hole[C], Pulsar[C], White Dwarf[C], Yellow Dwarf[C]

has members

Sun[ni]

is disjoint with

Asteroid[C], Comet[C], Dwarf Planet[C], Natural Satellite[C], Planet[C]

Terrestrial Planet[C]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Terrestrial_Planet

Terrestial Planet is a planet that is composed primarily of silicate rocks or metals.

has super-classes

Planet[C]

is disjoint with

Giant Planet[C]

White Dwarf[C]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#White_Dwarf

has super-classes

Star[C]

is disjoint with

Black Hole[C], Pulsar[C], Yellow Dwarf[C]

A white dwarf, also called a degenerate dwarf, is a stellar core remnant composed mostly of electron-degenerate matter.

Yellow Dwarf[C]

back to ToC or Class ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Yellow_Dwarf

has super-classes

Star[C]

is disjoint with

Black Hole[C], Pulsar[C], White Dwarf[C]

A G-type main-sequence star, often called a yellow dwarf, or G dwarf star, is a main-sequence star with luminosity class V of spectral type G.

Object Properties

Has Orbit Center[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Has_Orbit_Center

has super-properties

Orbits Around[op]

has domain

Astronomical Object[c]

Satellite[c]

has range

Astronomical Object[c]

has participant[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#hasParticipant

is inverse of

is participant in[op]

is bigger than[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#isBiggerThan

has characteristics: transitive

has domain

Astronomical Object[c]

has range

Astronomical Object[c]

is inverse of

is smaller than[op]

is smaller than[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#isSmallerThan

has characteristics: transitive

is inverse of

is bigger than[op]

item[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#item

has characteristics: functional

has domain

slot[c]

next[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#next

has characteristics: functional

has domain

slot[c]

has range

slot[c]

Orbited By[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Orbited_By

has domain

Astronomical Object[c]

has range

Astronomical Object[c]

Satellite[c]

is inverse of

Orbits Around[op]

Orbits Around[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Orbits_Around

has characteristics: transitive

has sub-properties

Has Orbit Center[op]

has domain

Astronomical Object[c]

has range

Astronomical Object[c]

Satellite[c]

is inverse of

Orbited By[op]

---

ordered list[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#ordered_list

---

has characteristics: functional

has domain

slot[c]

has range

ordered list[c]

is inverse of

slot[op]

---

previous[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#previous

---

has characteristics: functional

has domain

slot[c]

has range

slot[c]

---

slot[op]

back to ToC or Object Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#slot

---

has characteristics: inverse functional

has domain

ordered list[c]

has range
slot[c]
is inverse of
ordered list[op]

Data Properties

Argument of Periapsis[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Argument_Of_Periapsis

defines the orientation of the ellipse in the orbital plane, as an angle measured from the ascending node to the periapsis

has super-properties
Semimajor Axis[dp]
has range
double

Eccentricity[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Eccentricity

has super-properties
Semimajor Axis[dp]
has range
double

Inclination[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Inclination

Vertical tilt of the ellipse with respect to the reference plane, measured at the ascending node according to a reference plane

has super-properties
Semimajor Axis[dp]
has range
double

index[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#index

has range

length[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#length

has range

Longitude of the ascending node[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Longitude_Of_The_Ascending_Node

horizontally orients the ascending node of the ellipse

has super-properties

Semimajor Axis[dp]

has range

double

Mass[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Mass

The mass of a thing expressed in Kg

has range

Name[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Name

The attribute that identifies the name of an object

has range

string

Semimajor Axis[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Orbital_Parameter

The sum of the periapsis and apoapsis distances divided by two.

has sub-properties

Argument of Periapsis[dp], Eccentricity[dp], Inclination[dp], Longitude of the ascending node[dp], Semimajor Axis[dp], True Anomaly[dp]

has domain

Orbiter[c]

has range

double

Semimajor Axis[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Semimajor_Axis

The sum of the periapsis and apoapsis distances divided by two.

has super-properties

Semimajor Axis[dp]

has range

double

True Anomaly[dp]

back to ToC or Data Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#True_Anomaly

defines the position of the orbiting body along the ellipse at a specific time

has super-properties

Semimajor Axis[dp]

has range

double

Named Individuals

Aegaeon Amalthea Andrastea Anthe Ariel Atlas Callisto Calypso Daphins deimos Dione earth Enceladus Epimetheus Europa First Planet Ganymede Helene Hyperion Iapetus Io Janus Jupiter Mars Mercury Methone Metis Mimas Miranda Moon Neptune Nereid Oberon Pallene Pan Pandora Phobos Phoebe Polyduce Prometheus Rhea Saturn Second Planet Solar System Planet Sun Telesto Tethis Thebe Third Planet Titan Titania Triton Umbriel Uranus Venus

Aegaeon[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Aegaeon

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Aegaeon"^^string*
Has Orbit Center[op] Saturn

Amalthea[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Amalthea

Moon orbiting around Jupiter

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Amalthea"^^string*
Has Orbit Center[op] Jupiter

Andrastea[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Andrastea

Moon orbiting around Jupiter

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Andrastea"^^string*
Has Orbit Center[op] Jupiter

Anthe[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Anthe

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Anthe"^^string*
Has Orbit Center[op] Saturn

Ariel[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Ariel

Moon orbiting around Uranus

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Ariel"^^string*
Has Orbit Center[op] Uranus

Atlas[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Atlas

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Atlas"^^string*
Has Orbit Center[op] Saturn

Callisto[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Callisto

Moon orbiting around Jupiter

belongs to

Astronomical Object[c]
Natural Satellite[c]

Satellite[c]

has facts

Name[dp] *"Callisto"^^string*

Has Orbit Center[op] Jupiter

Calypso[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Calypso

Moon orbiting around Saturn

---

belongs to

Astronomical Object[c]

Natural Satellite[c]

Satellite[c]

has facts

Name[dp] *"Calypso"^^string*

Has Orbit Center[op] Saturn

Daphins[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Daphins

Moon orbiting around Saturn

---

belongs to

Astronomical Object[c]

Natural Satellite[c]

Satellite[c]

has facts

Name[dp] *"Daphins"^^string*

Has Orbit Center[op] Saturn

---

deimos[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Deimos

Moon orbiting around Mars

---

belongs to

Astronomical Object[c]

Natural Satellite[c]

Satellite[c]

has facts

Name[dp] *"Deimos"^^string*

Has Orbit Center[op] Mars

Dione[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Dione

Moon orbiting around Saturn

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Dione"^^string*
- Has Orbit Center[op] Saturn

earth[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Earth

has facts

- Inclination[dp] *"-1.531E-5"^^double*
- Longitude of the ascending node[dp] *"0.0"^^double*
- Eccentricity[dp] *"0.01671123"^^double*
- Semimajor Axis[dp] *"1.00000261"^^double*
- Argument of Periapsis[dp] *"102.9376819"^^double*
- Has Orbit Center[op] Sun

Earth is the third planet from the Sun and the only astronomical object known to harbor life. According to radiometric dating estimation and other evidence, Earth formed over 4.5 billion years ago. Earth's gravity interacts with other objects in space, especially the Sun and the Moon, which is Earth's only natural satellite.

Enceladus[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Enceladus

Moon orbiting around Saturn

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Enceladus"^^string*

Has Orbit Center[op] Saturn

Epimetheus[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Epimetheus

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Epimetheus"^^string*
Has Orbit Center[op] Saturn

Europa[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Europa

Moon orbiting around Jupiter

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Europa"^^string*
Has Orbit Center[op] Jupiter

First Planet[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#First_Planet

First Slot of the Ordered List of Solar System Planet

belongs to

slot[c]

has facts

index[dp] *"1"^^integer*
item[op] Mercury
next[op] Second Planet
ordered list[op] Solar System Planet

Ganymede[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Ganymede

Moon orbiting around Jupiter

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Ganymede"^^string*
Has Orbit Center[op] Jupiter

Helene[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Helene

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Helene"^^string*
Has Orbit Center[op] Saturn

Hyperion[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Hyperion

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Hyperion"^^string*
Has Orbit Center[op] Saturn

Iapetus[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Iapetus

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Iapetus"^^string*
Has Orbit Center[op] Saturn

Io[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Io

Moon orbiting around Jupiter

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Io"^^string*
Has Orbit Center[op] Jupiter

Janus[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Janus

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Janus"^^string*
Has Orbit Center[op] Saturn

Jupiter[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Jupiter

belongs to

Astronomical Object[c]
Satellite[c]

has facts

Eccentricity[dp] *"0.04838624"^^double*
Inclination[dp] *"1.30439695"^^double*

Longitude of the ascending node[dp] *"100.4739091"^^double*
Argument of Periapsis[dp] *"14.72847983"^^double*
Semimajor Axis[dp] *"5.202887"^^double*
Has Orbit Center[op] Sun

Jupiter is the fifth planet from the Sun and the largest in the Solar System. It is a gas giant with a mass one-thousandth that of the Sun, but two-and-a-half times that of all the other planets in the Solar System combined. Jupiter is one of the brightest objects visible to the naked eye in the night sky, and has been known to ancient civilizations since before recorded history.

Mars[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Mars

belongs to

Astronomical Object[c]
Satellite[c]

has facts

Argument of Periapsis[dp] *"-23.94362959"^^double*
Eccentricity[dp] *"0.0933941"^^double*
Semimajor Axis[dp] *"1.52371034"^^double*
Inclination[dp] *"1.84969142"^^double*
Longitude of the ascending node[dp] *"49.55953891"^^double*
Has Orbit Center[op] Sun

Mars is the fourth planet from the Sun and the second-smallest planet in the Solar System, being only larger than Mercury. In English, Mars carries the name of the Roman god of war and is often referred to as the "Red Planet". The latter refers to the effect of the iron oxide prevalent on Mars' surface, which gives it a reddish appearance distinctive among the astronomical bodies visible to the naked eye.Mars is a terrestrial planet with a thin atmosphere, with surface features reminiscent of the impact craters of the Moon and the valleys, deserts and polar ice caps of Earth.

Mercury[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Mercury

has facts

Eccentricity[dp] *"0.20563593"^^double*
Semimajor Axis[dp] *"0.38709927"^^double*
Longitude of the ascending node[dp] *"48.33076593"^^double*
Inclination[dp] *"7.00497902"^^double*
Argument of Periapsis[dp] *"77.45779628"^^double*
Has Orbit Center[op] Sun

Mercury is the smallest and innermost planet in the Solar System. Its orbit around the Sun takes 87.97 days, the shortest of all the planets in the Solar System. It is named after the Roman deity Mercury, the messenger of the gods.

Methone[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Methone

Moon orbiting around Saturn

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Methone"^^string*
- Has Orbit Center[op] Saturn

Metis[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Metis

Moon orbiting around Jupiter

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Metis"^^string*
- Has Orbit Center[op] Jupiter

Mimas[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Mimas

Moon orbiting around Saturn

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Mimas"^^string*
- Has Orbit Center[op] Saturn

Miranda[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Miranda

Moon orbiting around Uranus

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Miranda"^^string*
- Has Orbit Center[op] Uranus

Moon[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Moon

Moon orbiting around Earth

has facts

- is smaller than[op] earth
- Has Orbit Center[op] earth

Neptune[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Neptune

belongs to

- Astronomical Object[c]
- Satellite[c]

has facts

- Eccentricity[dp] *"0.00859048"^^double*
- Inclination[dp] *"1.77004347"^^double*
- Longitude of the ascending node[dp] *"131.7842257"^^double*
- Semimajor Axis[dp] *"30.06992276"^^double*
- Argument of Periapsis[dp] *"44.96476227"^^double*
- Has Orbit Center[op] Sun

Neptune is the eighth and farthest-known planet from the Sun in the Solar System. In the Solar System, it is the fourth-largest planet by diameter, the third-most-massive planet, and the densest giant planet. Neptune is 17 times the mass of Earth, slightly more massive than its near-twin Uranus. Neptune is denser and physically smaller than Uranus because its greater mass causes more gravitational compression of its atmosphere. Neptune orbits the Sun once every 164.8 years at an average distance of

30.1 AU (4.5 billion km; 2.8 billion mi). It is named after the Roman god of the sea and has the astronomical symbol ♆, a stylised version of the god Neptune's trident.

Nereid[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Nereid

Moon orbiting around Neptune

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Nereid"^^string*
- Has Orbit Center[op] Neptune

Oberon[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Oberon

Moon orbiting around Uranus

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Oberon"^^string*
- Has Orbit Center[op] Uranus

Pallene[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Pallene

Moon orbiting around Saturn

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Pallene"^^string*
- Has Orbit Center[op] Saturn

Pan[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Pan

Moon orbiting around Saturn

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Pan"^^string*
- Has Orbit Center[op] Saturn

Pandora[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Pandora

Moon orbiting around Saturn

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Pandora"^^string*
- Has Orbit Center[op] Saturn

Phobos[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Phobos

Moon orbiting around Mars

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Phobos"^^string*
- Has Orbit Center[op] Mars

Phoebe[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Phoebe

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Phoebe"^^string*
Has Orbit Center[op] Saturn

Polyduce[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Polyduce

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Polyduce"^^string*
Has Orbit Center[op] Saturn

Prometheus[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Prometheus

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Prometheus"^^string*
Has Orbit Center[op] Saturn

Rhea[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Rhea

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Rhea"^^string*
Has Orbit Center[op] Saturn

Saturn[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Saturn

belongs to

Astronomical Object[c]
Satellite[c]

has facts

Eccentricity[dp] *"0.05386179"^^double*
Longitude of the ascending node[dp] *"113.6624245"^^double*
Inclination[dp] *"2.48599187"^^double*
Semimajor Axis[dp] *"9.53667594"^^double*
Argument of Periapsis[dp] *"92.59887831"^^double*
Has Orbit Center[op] Sun

Saturn is the sixth planet from the Sun and the second-largest in the Solar System, after Jupiter. It is a gas giant with an average radius of about nine times that of Earth. It only has one-eighth the average density of Earth; however, with its larger volume, Saturn is over 95 times more massive. Saturn is named after the Roman god of wealth and agriculture; its astronomical symbol (♄) represents the god's sickle.

Second Planet[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Second_Planet

Second Slot of the Ordered List of Solar System Planet

has facts

index[dp] *"2"^^integer*
previous[op] First Planet
ordered list[op] Solar System Planet
next[op] Third Planet
item[op] Venus

Solar System Planet[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Solar_System_Planets

Ordered List of planets in the Solar System

belongs to

ordered list[c]

has facts

length[dp] *"8"^^integer*

Sun[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Sun

belongs to

Star[c]

has facts

is bigger than[op] earth

The Sun is the star at the center of the Solar System. It is a nearly perfect sphere of hot plasma, with internal convective motion that generates a magnetic field via a dynamo process.[20] It is by far the most important source of energy for life on Earth. Its diameter is about 1.39 million kilometers (864,000 miles), or 109 times that of Earth, and its mass is about 330,000 times that of Earth. It accounts for about 99.86% of the total mass of the Solar System.Roughly three quarters of the Sun's mass consists of hydrogen (~73%); the rest is mostly helium (~25%), with much smaller quantities of heavier elements, including oxygen, carbon, neon, and iron.

Telesto[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Telesto

Moon orbiting around Saturn

belongs to

Astronomical Object[c]

Natural Satellite[c]

Satellite[c]

has facts

Name[dp] *"Telesto"^^string*

Has Orbit Center[op] Saturn

Tethis[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Tethis

Moon orbiting around Saturn

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Tethis"^^string*
Has Orbit Center[op] Saturn

Thebe[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Thebe

Moon orbiting around Jupiter

---

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Thebe"^^string*
Has Orbit Center[op] Jupiter

Third Planet[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Third_Planet

---

has facts

index[dp] *"3"^^integer*
item[op] earth
previous[op] Second Planet
ordered list[op] Solar System Planet

Titan[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Titan

Moon orbiting around Saturn

---

belongs to

Astronomical Object[c]
Natural Satellite[c]
Satellite[c]

has facts

Name[dp] *"Titan"^^string*
Has Orbit Center[op] Saturn

Titania[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Titania

Moon orbiting around Uranus

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Titania"^^string*
- Has Orbit Center[op] Uranus

Triton[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Triton

Moon orbiting around Neptune

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Triton"^^string*
- Has Orbit Center[op] Neptune

Umbriel[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Umbriel

Moon orbiting around Uranus

belongs to

- Astronomical Object[c]
- Natural Satellite[c]
- Satellite[c]

has facts

- Name[dp] *"Umbriel"^^string*
- Has Orbit Center[op] Uranus

Uranus[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Uranus

belongs to

Astronomical Object[c]

Satellite[c]

has facts

Eccentricity[dp] *"0.04725744"^^double*

Inclination[dp] *"0.77263783"^^double*

Argument of Periapsis[dp] *"170.9542763"^^double*

Semimajor Axis[dp] *"19.18916464"^^double*

Longitude of the ascending node[dp] *"74.01692503"^^double*

Has Orbit Center[op] Sun

Uranus is the seventh planet from the Sun. The name "Uranus" is a reference to the Greek god of the sky, Uranus. According to Greek mythology, Uranus was the grandfather of Zeus (Jupiter) and father of Cronus (Saturn). It has the third-largest planetary radius and fourth-largest planetary mass in the Solar System. Uranus is similar in composition to Neptune, and both have bulk chemical compositions which differ from that of the larger gas giants Jupiter and Saturn. For this reason, scientists often classify Uranus and Neptune as "ice giants" to distinguish them from the gas giants.

Venus[ni]

back to ToC or Named Individual ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#Venus

has facts

Eccentricity[dp] *"0.00677672"^^double*

Semimajor Axis[dp] *"0.72333566"^^double*

Argument of Periapsis[dp] *"131.6024672"^^double*

Inclination[dp] *"3.39467605"^^double*

Longitude of the ascending node[dp] *"76.67984255"^^double*

Has Orbit Center[op] Sun

Venus is the second planet from the Sun. It is named after the Roman goddess of love and beauty. As the second-brightest natural object in the night sky after the Moon, Venus can cast shadows and can be, on rare occasion, visible to the naked eye in broad daylight.

Annotation Properties

Creator Date Date Date description desctiption has version isissued modified note Physics Symbol preferred name space prefix preferred name space u r i Wikidata Code Wikipeda Title

Creator[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/dc/elements/1.1/creator

is defined by
http://purl.org/dc/elements/1.1/

An entity primarily responsible for making the resource.

Date[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/dc/elements/1.1/date

is defined by
http://purl.org/dc/elements/1.1/

A point or period of time associated with an event in the lifecycle of the resource.

Date[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/dc/elements/1.1/description

is defined by
http://purl.org/dc/elements/1.1/

A point or period of time associated with an event in the lifecycle of the resource.

Date[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/dc/elements/1.1/title

is defined by
http://purl.org/dc/elements/1.1/

A point or period of time associated with an event in the lifecycle of the resource.

description[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/dc/terms/description

desctiption[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/dc/elements/1.1/desctiption

has version[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/dc/terms/hasVersion

isissued[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/dc/terms/isissued

modified[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/dc/terms/modified

note[ap]

back to ToC or Annotation Property ToC

IRI: http://www.w3.org/2004/02/skos/core#note

Physics Symbol[ap]

back to ToC or Annotation Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#physicsSymbol

Identifies the character used in a physics formula (typically a greek letter)

preferred name space prefix[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/vocab/vann#preferredNameSpacePrefix

preferred name space u r i[ap]

back to ToC or Annotation Property ToC

IRI: http://purl.org/vocab/vann#preferredNameSpaceURI

Wikidata Code[ap]

back to ToC or Annotation Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#wikidataCode

Identifies the wikidata page code (useful for the API)

Wikipeda Title[ap]

back to ToC or Annotation Property ToC

IRI: http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#wikipediaTitle

Identifies the wikipedia page title (useful for the API)

General Axioms

All Disjoint Classes

back to ToC

Aerocentric[C], Geocentric[C], Heliocentric[C], Lunar[C]

All Disjoint Classes

back to ToC

Asteroid[C], Comet[C], Dwarf Planet[C], Natural Satellite[C], Planet[C], Star[C]

All Disjoint Classes

back to ToC

Black Hole[C], Pulsar[C], White Dwarf[C], Yellow Dwarf[C]

Namespace Declarations

back to ToC

default namespace
http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#

4
http://www.semanticweb.org/daniele/ontologies/2020/4/

dc
http://purl.org/dc/elements/1.1/

owl
http://www.w3.org/2002/07/owl#

rdf
http://www.w3.org/1999/02/22-rdf-syntax-ns#

rdfs
http://www.w3.org/2000/01/rdf-schema#

skos
http://www.w3.org/2004/02/skos/core#

space-tracking-ontology
http://www.semanticweb.org/daniele/ontologies/2020/4/space-tracking-ontology#

terms
http://purl.org/dc/terms/

vann
http://purl.org/vocab/vann#

wiki
https://en.wikipedia.org/wiki/

xsd
http://www.w3.org/2001/XMLSchema#