

GPConstants

De Wiki

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How to call it

GENOPUS proposes some widgets with a list of [[PATRIUS](#)] constants. They can be called such as:

```
muSelector = new GPEntryEarthMu("Earth Mu selector:");
```

```
earthEqRadSelector = new GPEntryEarthEqRad("Earth Equatorial radius  
selector:");
```

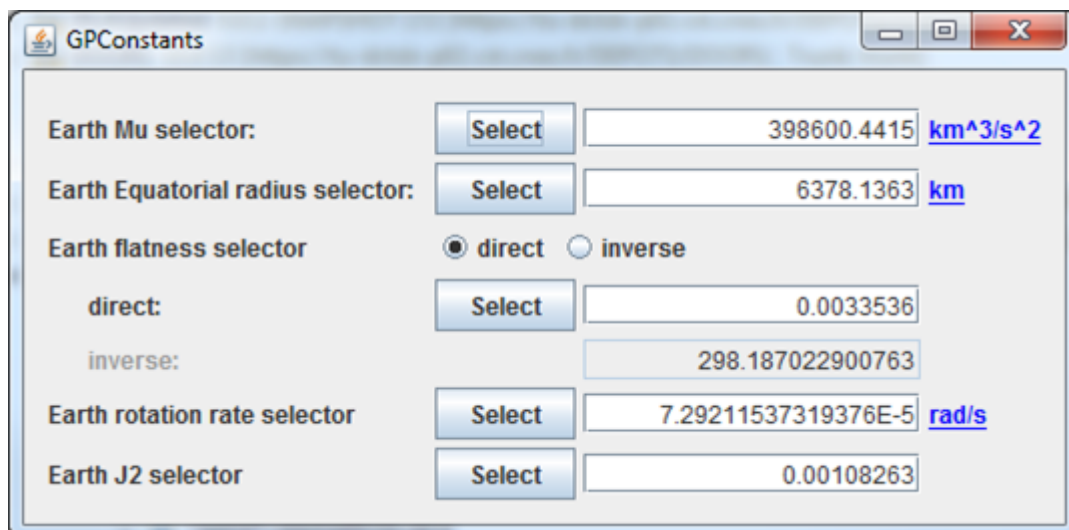
```
earthFlatSelector = new GPEntryEarthFlat("Earth flatness selector");
```

```
earthRotRateSelector = new GPEntryEarthRotRate("Earth rotation rate  
selector");
```

```
earthJ2Selector = new GPEntryEarthJ2("Earth J2 selector");
```

Display

We will get:



The screenshot shows a window titled "GPConstants" with a light blue border. Inside, there are several rows of controls for different Earth constants. Each row has a label, a "Select" button, a text input field, and a unit label. The "Earth flatness selector" row is unique as it has radio buttons for "direct" and "inverse" instead of a single "Select" button. The "direct" radio button is selected.

Selector Label	Value	Unit
Earth Mu selector:	398600.4415	km ³ /s ²
Earth Equatorial radius selector:	6378.1363	km
Earth flatness selector	0.0033536 (direct)	
inverse:	298.187022900763	
Earth rotation rate selector	7.29211537319376E-5	rad/s
Earth J2 selector	0.00108263	

These constants are of course modifiable via the [GUI](#) but a list of predefined values (present in [[PATRIUS](#)] library) is accessible via a select button that will display a pop-up window as below ...



How to use it

To get the values of such constant, we will just have to call for the `getValue()` method as on the example below:

```
double mu = muSelector.getValue();
```

How it is stored

Here is the [XML](#) format:

```
<Real name="Earth_Mu_selector:" unit="km^3/s^2">3.986004415E5</Real>
<Real name="Earth_Equatorial_radius_selector:" unit="km">6.3781363E3</Real>
<Real name="Earth_flatness_selector">3.3536E-3</Real>
<Real name="Earth_rotation_rate_selector"
unit="rad/s">7.29211537319376E-5</Real>
<Real name="Earth_J2_selector">1.08263E-3</Real>
```

Récupérée de « <http://genopus.cnes.fr/index.php?title=GPCconstants&oldid=99> »

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