

# HARMONICS TO URANUS

**ALL WITHIN .5 PERCENT UNLESS MARKED BLACK**

**1. Self ODR – farthest distance from sun over closest**

**1.099005271956096282**

**2. Solar Day**

ERIS 1.5023702943221294525

**3. Year Length**

Mars → 1.3959272604011085214`7.698970004336018,

Venus → 1.0669449492915491854`7.6989700043360205,

**4. Mass**

none

**5. Angular Momentum**

**Jupiter 1.50**

**6. Radius**

none

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Solar Day LENGTHS

ERIS 1.5023702943221294525

In[33]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{Planet}", "Uranus"] ["\text{SolarDay}"] / \text{EntityValue}["\text{Planet}", "SolarDay", "EntityAssociation"]]]}$

Out[33]= { Mercury → 0.52259, Venus → 0.78753, Earth → 0.71831, Mars → 0.69909, Jupiter → 1.7368, Saturn → 1.6177, Uranus → 1.0000, Neptune → 1.0701 }

In[32]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{EntityValue}["\text{Planet}", "SolarDay", "EntityAssociation"] / \text{Entity}["\text{Planet}", "Uranus"]["SolarDay"]]]}$

Out[32]=  $\langle \left\{ \begin{array}{l} \text{Mercury} \rightarrow 1.9135, \text{ Venus} \rightarrow 1.2698, \text{ Earth} \rightarrow 1.3922, \text{ Mars} \rightarrow 1.4304, \\ \text{Jupiter} \rightarrow 0.5758, \text{ Saturn} \rightarrow 0.6182, \text{ Uranus} \rightarrow 1.0000, \text{ Neptune} \rightarrow 0.9345 \end{array} \right\} \rangle$

In[34]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{Planet}", "Uranus"]["SolarDay"] / \text{Entity}["\text{MinorPlanet}", "Ceres"]["SolarDay"]]]}$

Out[34]= 1.899

In[35]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{MinorPlanet}", "Eris"]["SolarDay"] / \text{Entity}["\text{Planet}", "Uranus"]["SolarDay"]]]}$

Out[35]= 1.50

## HARMONICS TO PLUTO

### YEAR LENGTHS

**Mars**  $\rightarrow 1.3959272604011085214 \cdot 7.698970004336018,$

**Venus**  $\rightarrow 1.0669449492915491854 \cdot 7.6989700043360205,$

In[36]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{Planet}", "Uranus"]["OrbitPeriod"] / \text{EntityValue}["\text{Planet}", "OrbitPeriod", "EntityAssociation"]]]}$

Out[36]=  $\langle \left\{ \begin{array}{l} \text{Mercury} \rightarrow 1.362654, \text{ Venus} \rightarrow 1.0669449, \text{ Earth} \rightarrow 1.3127404, \text{ Mars} \rightarrow 1.3959273, \\ \text{Jupiter} \rightarrow 1.7706224, \text{ Saturn} \rightarrow 1.4265532, \text{ Uranus} \rightarrow 1.000000, \text{ Neptune} \rightarrow 0.5098378 \end{array} \right\} \rangle$

In[37]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{EntityValue}["\text{Planet}", "OrbitPeriod", "EntityAssociation"] / \text{Entity}["\text{Planet}", "Uranus"]["OrbitPeriod"]]]}$

Out[37]=  $\langle \left\{ \begin{array}{l} \text{Mercury} \rightarrow 0.7338618, \text{ Venus} \rightarrow 0.9372555, \text{ Earth} \rightarrow 0.7617652, \text{ Mars} \rightarrow 0.7163697, \\ \text{Jupiter} \rightarrow 0.5647732, \text{ Saturn} \rightarrow 0.7009903, \text{ Uranus} \rightarrow 1.000000, \text{ Neptune} \rightarrow 1.9614081 \end{array} \right\} \rangle$

In[38]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{Planet}", "Uranus"]["OrbitPeriod"] / \text{Entity}["\text{MinorPlanet}", "Ceres"]["OrbitPeriod"]]]}$

Out[38]= 1.1414849

In[39]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{MinorPlanet}", "Eris"]["OrbitPeriod"] / \text{Entity}["\text{Planet}", "Uranus"]["OrbitPeriod"]]]}$

Out[39]= 1.6571

```
In[40]:= 2^FractionalPart[Log[2, Entity["MinorPlanet", "Pluto"]["OrbitPeriod"] /
Entity["Planet", "Uranus"]["OrbitPeriod"]]]
```

```
Out[40]= 1.4754223
```

```
In[ ]:= my = 2^FractionalPart[Log[2,
EntityValue["Planet", "OrbitPeriod"] / Entity["Planet", "Mercury"]["OrbitPeriod"]]]
```

```
Out[ ]:= {1.000000, 1.277155, 1.038023, 1.952329, 1.539181, 1.910415, 1.362654, 1.336361}
```

```
In[ ]:= MatrixForm[%]
```

```
Out[ ]/MatrixForm=
```

$$\begin{pmatrix} 1.000000 \\ 1.277155 \\ 1.038023 \\ 1.952329 \\ 1.539181 \\ 1.910415 \\ 1.362654 \\ 1.336361 \end{pmatrix}$$

```
In[ ]:= Export["mercyear.xls", my, "XLS"]
```

```
Out[ ]:= mercyear.xls
```

```
In[ ]:= SystemOpen["mercyear.xls"]
```

#### HARMONICS OF FARTHEST PT OVER NEAREST TO SUN FOR EACH PLANET

```
In[ ]:= 2^FractionalPart[Log[2, EntityValue["Planet", "Aphelion", "EntityAssociation"] /
EntityValue["Planet", "Perihelion", "EntityAssociation"]]]
```

```
Out[ ]:= {Mercury → 1.5177206, Venus → 1.0136388, Earth → 1.03398839, Mars → 1.20607457,
Jupiter → 1.10170720, Saturn → 1.114502, Uranus → 1.09900527, Neptune → 1.0173205}
```

```
In[ ]:= Entity["MinorPlanet", "Ceres"]["Aphelion"] / Entity["MinorPlanet", "Ceres"]["Perihelion"]
```

```
Out[ ]:= 1.1733465
```

```
In[ ]:= Entity["MinorPlanet", "Pluto"]["Aphelion"] / Entity["MinorPlanet", "Pluto"]["Perihelion"]
```

```
Out[ ]:= 1.67
```

```
In[ ]:= Entity["MinorPlanet", "Eris"]["Aphelion"] / Entity["MinorPlanet", "Eris"]["Perihelion"]
```

```
In[ ]:= 2.5847131940170787205`4.087973628208405 / 2
```

```
Out[ ]:= 1.292
```

```
In[ ]:= Moon PLANETARY MOON ["Aphelion"] / Moon PLANETARY MOON ["Perihelion"]
```

```
Out[ ]:= Missing[UnknownProperty, {PlanetaryMoon, Aphelion}]
Missing[UnknownProperty, {PlanetaryMoon, Perihelion}]
```

HARMONICS TO Pluto

MASS

**Ceres 1.40**

**Mars** → 1.0568963618624756896

In[41]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{EntityValue}["\text{Planet}", "Mass", "EntityAssociation"] / \text{Entity}["\text{Planet}", "Uranus"]["Mass"]]]}$

Out[41]=  $\langle \left\{ \begin{array}{l} \text{Mercury} \rightarrow 0.973, \text{ Venus} \rightarrow 0.897, \text{ Earth} \rightarrow 0.550, \text{ Mars} \rightarrow 0.946, \\ \text{Jupiter} \rightarrow 1.367, \text{ Saturn} \rightarrow 1.637, \text{ Uranus} \rightarrow 1.000, \text{ Neptune} \rightarrow 1.180 \end{array} \right\} \rangle$

In[42]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{Planet}", "Uranus"]["Mass"] / \text{EntityValue}["\text{Planet}", "Mass", "EntityAssociation"]]]}$

Out[42]=  $\langle \left\{ \begin{array}{l} \text{Mercury} \rightarrow 1.027, \text{ Venus} \rightarrow 1.115, \text{ Earth} \rightarrow 1.817, \text{ Mars} \rightarrow 1.057, \\ \text{Jupiter} \rightarrow 0.732, \text{ Saturn} \rightarrow 0.611, \text{ Uranus} \rightarrow 1.000, \text{ Neptune} \rightarrow 0.847 \end{array} \right\} \rangle$

In[43]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{Planet}", "Uranus"]["Mass"] / \text{Entity}["\text{MinorPlanet}", "Pluto"]["Mass"]]]}$

Out[43]= 1.619

In[45]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{Planet}", "Uranus"]["Mass"] / \text{Entity}["\text{MinorPlanet}", "Eris"]["Mass"]]]}$

Out[45]= 1.27

In[44]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{Planet}", "Uranus"]["Mass"] / \text{Entity}["\text{MinorPlanet}", "Ceres"]["Mass"]]]}$

Out[44]= 1.40

In[46]=  $2^{\text{FractionalPart}[\text{Log}[2, \text{Entity}["\text{Planet}", "Uranus"]["Mass"] / \text{Entity}["\text{Moon PLANETARY MOON}"]["Mass"]]]}$

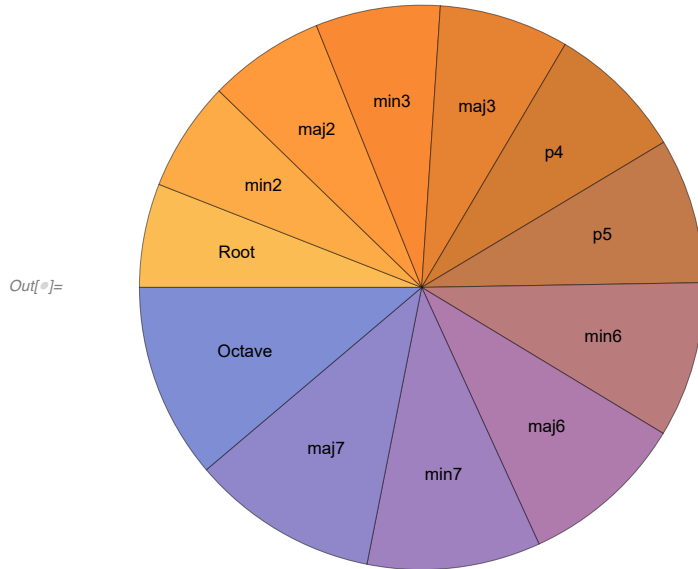
Out[46]= 1.154

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```

In[ ]:= PieChart[{1, 1.06, 1.12, 1.2, 1.25, 1.33, 1.4, 1.5, 1.6, 1.67, 1.8, 1.88},
  ChartLabels -> {"Root", "min2", "maj2", "min3", "maj3",
    "p4", "p5", "min6", "maj6", "min7", "maj7", "Octave"}]

```



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PLUTO ANG MOM

# radius



```

In[53]:= 2^FractionalPart[Log[2, Entity["Planet", "Uranus"]["Radius"] /
  EntityValue["Planet", "Radius", "EntityAssociation"]]]

```

```

Out[53]:= { Mercury -> 1.30, Venus -> 1.048, Earth -> 1.991, Mars -> 1.871,
  Jupiter -> 0.725, Saturn -> 0.870, Uranus -> 1.000, Neptune -> 1.03 }

```

```
In[52]:= 2^FractionalPart[Log[2, EntityValue["Planet", "Radius", "EntityAssociation"] / Entity["Planet", "Uranus"]["Radius"]]]
```

```
Out[52]= { Mercury -> 0.770, Venus -> 0.954, Earth -> 0.502, Mars -> 0.535, Jupiter -> 1.379, Saturn -> 1.149, Uranus -> 1.000, Neptune -> 0.97 }
```

```
In[56]:= 2^FractionalPart[Log[2, Entity["Planet", "Uranus"]["Radius"] / Entity["MinorPlanet", "Eris"]["Radius"]]]
```

```
Out[56]= 1.363
```

```
In[54]:= 2^FractionalPart[Log[2, Entity["Planet", "Uranus"]["Radius"] / Entity["MinorPlanet", "Ceres"]["Radius"]]]
```

```
Out[54]= 1.69
```

```
In[55]:= 2^FractionalPart[Log[2, Entity["Planet", "Uranus"]["Radius"] / Entity["MinorPlanet", "Eris"]["Radius"]]]
```

```
Out[55]= 1.363
```

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### Uranus ang Mom

#### Jupiter 1.50

```
In[*]:= 2^FractionalPart[Log[2, angU / angMom]]
```

```
Out[*]= {1.81, 1.93, 1.57, 1.293, 1.89, 0.668, 0.748, 1.00, 0.96, 1.293, 1.57}
```

```
In[*]:= 2^FractionalPart[Log[2, angMom / angU]]
```

```
Out[*]= {0.55, 0.519, 0.64, 0.773, 0.53, 1.50, 1.34, 1.00, 1.04, 0.774, 0.64}
```