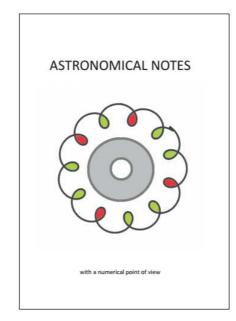
## Background information book

A new model of the solar system is in need for your attention. This model is introduced in the book "Astronomical Notes", in the historical context of the different developments in the astronomy.



The practical side of this new model is the ability to predict the heavy earthquakes in future times. The book has already been published in a beta-version in Dutch and in English in order to create the necessary awareness and to build an application in which earthquakes can be predicted. The findings of the model imply a social responsibility. It is of interest in the current on-going climate discussion.

In the 20<sup>th</sup> century the change of the climate itself was a major point of discussion. But after the numerous earthquakes, hurricanes, tsunamis and other climate dependent events we have seen in the last years the main question arises; what is causing that change? Besides the effects of human behavior like the production of  $CO_2$  and other greenhouse gases another question arises; has the solar system an effect on the global weather? Just like the position of the Sun and the Moon influence the tide and other aspects of the global weather.

Space and time are concepts that has been defined over ages. In many different cultures the cosmos was a starting point for science, besides the more metaphysical tasks of the old astronomers, the need for mathematics is obvious. The vision of the cosmos as a harmonic structure of interdependent objects is not new. Since Pythagoras it is known that the motion of strings in snare instruments are reinforcing each other in a way that a more harmonic oscillation will be the result of it. The reason is found in constant proportions of wavelength and frequencies. And in the Middle-Ages a broader vision of the solar system was made by the philosopher Nicholas of Cusa in its main work "De Docta Ignorantia ", in which the importance of relative motion is mentioned. Thinking about incommensurability by Laplace and others in the 18<sup>th</sup> century, this can be seen in the same way. The influence of Einstein's work on the subject of space and time is still the state of the art in current times. Only science-fiction seems to be able to falsify his ideas.

To create an alternative model of the solar system the basics of mathematics of Euclid and Pythagoras, Descartes and Kepler and Euler and Einstein has been used.

## The model

When we define the distance of the planet which is the closest to the sun as 1, than the other distances can be derived. We can calculate the orbital time of the different planets by using Kepler's law. Next we can define a new variable f, frequency, which equals d/t.

	Average d	istances of t	he planets	to the Sur	ı.		
model			model	model		Model values for	Model values for
			dec	ln()			
1	1	Mercury	1	0		distance ( dec )	distance LN
1,881966	2	Venus	1,881966	0,632317	140		6
2,618034	3	Earth	2,618034	0,962424	120	y = 0,5608e <sup>0,5359x</sup>	5 y = 0,5359x - 0,5784
4	4	Mars	4	1,386294	100	R <sup>2</sup> = 0,9934	4 R <sup>2</sup> = 0,9934
7,389056	5	Planetoids	7,389056	2	80		3
13,57209	6	Jupiter	13,57209	2,608015	60		2
25	7	Saturn	25	3,218876	40	<b>7</b>	
50	8	Uranus	50	3,912023	20		
78,53982	9	Neptune	78,53982	4,363606	0	a-a-a-a-***	
100	10	Pluto	100	4,60517	0	5 10	15 -1 0 5 10 1

Most of the distances are squares of constants like 1,  $\phi$ , 2, e, 5, and 10. We can use the ratios of these constants in the resonances of the planets. In this model the distances can be seen as the result of the frequencies.

f		1	2	3	4	5	6	7	8	9	10
		1	0,728934	0,618034	0,5	0,367879	0,2714	0,2	0,141415	0,112841	0,1
1	1	1	1,371865	1,618034	2	2,718282	3,684598	5	7,0714	8,862002	10
2	0,728934	0,728934	1	1,179441	1,457869	1,981449	2,685831	3,644672	5,154587	6,459819	7,289345
3	0,618034	0,618034	0,847859	1	1,236068	1,679991	2,277207	3,09017	4,370366	5,477018	6,18034
4	0,5	0,5	0,685933	0,809017	1	1,359141	1,842299	2,5	3,5357	4,431001	5
5	0,367879	0,367879	0,504681	0,595241	0,735759	1	1,355488	1,839397	2,601423	3,260148	3,678794
6	0,2714	0,2714	0,372324	0,439134	0,5428	0,737742	1	1,357	1,919178	2,405147	2,714
7	0,2	0,2	0,274373	0,323607	0,4	0,543656	0,73692	1	1,41428	1,7724	2
8	0,141415	0,141415	0,194002	0,228814	0,282829	0,384405	0,521056	0,707074	1	1,253217	1,414147
9	0,112841	0,112841	0,154803	0,182581	0,225683	0,306735	0,415775	0,564207	0,797946	1	1,128413
10	0,1	0,1	0,137187	0,161803	0,2	0,271828	0,36846	0,5	0,70714	0,8862	1
						10,98323					

Based on these frequencies the ratio 2 : e can be seen around the center. The conditional sum in the middle is about 10,983 years. This can be seen as a cyclical conditional probability.

In the book alternative ways are shown to explain this time interval. Also the ability to predict the heavy earthquakes in future times by using these frequencies is described in the book. An application is under construction.

## The general equation

The relative frequency has a comparable influence on a logarithmic scale. The same applies for the system as a whole towards the Sun.

$$C_{\tau} = \sum_{f=1}^{0} \frac{e^{(1-\ln|f|)}}{e^{(1+\tau\ln|f|)}}$$

τ	Periode
1	10,98
-1	117,77

## General equation

This formula predicts a periodicity of cycle C<sub>1</sub> of 10,98 years, which approaches the well known 11-years cycle. Wolfs idea that the position of the planets has an influence on the solar activity is confirmed by the outcomes of the model. New in this model is the central position of the Planetoids. For an input t = -1 for cycle C<sub>-1</sub> the result is a cycle with a periodicity of 117,77 years, which is not "well" known in scientific literature. In the book evidence can be found that other cycles such as a 772-years cycle also play a role.

The interference and passages of these different cycles cause a pattern of climate change. Not only the Dalton minimum corresponds with a pair of 117,77-years cycles and the 772 years-cycle is responsible for a Maunder minimum or little Ice-Age. Also the Milankovic-parameters can be derived from these cycles.

The impact of cyclic global climate change is beyond comparison. And the notion that the behavior of the planets in the solar system has a major impact on the climate change confirms the need for more attention on the interdependence of the underlying time cycles. The structure of these time cycles is described by the model and the algorithm by which a theoretical base is created. The need for a calendar of the different cycles, like a breviary by which changes in the climate can be read out is clear.

Controlling nature is a natural task especially when the struggle against the element forms the base for existence. It is not only a question of sustainability. This discussion about cyclic global climate should be a decisive global social responsibility. We cannot only let the elements speak.

In its current form the book is not a textbook and it fits in an innovative popular natural science genre. If you are interested and would like to buy the book, you will contribute to further research. The book can be found following the link <u>http://www.boekenbestellen.nl/boek/astronomical-notes/11949?lang=en</u>. For questions please reply this message.

Thanks for your attention,

Frank Plooij.