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Modified Theory of Relativity (Part 2). The Allais Effect Solved

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Abstract An Anisotropic Dark Flow Acceleration can solve the cause of the Allais Effect [1]. This claim is based on a kinematic analysis of 21 Allais Effect measurements. All measurements (without exception) substantiate that the Allais Effect is consistent with anisotropic acceleration and that the acceleration is directed in the same direction as Dark Flow. So far, Allais Effect measurements have taken place blindfolded. Now, it is possible to calculate and predict when and where the Allais Effect can be confirmed, and of course also predict where and why no effect can be confirmed. In addition, it is now also possible to calculate how strong anomalies can be expected, and even whether the effect can be measured before or after the eclipse reaches the maximum. Pendulums has been most effective instrument to use.

However, it will from now on be much more effective and convincing to use gravimeters.

This new theory also uncovers why advanced instruments can be used much more successfully and will also explains why such significant acceleration could have been hidden for such a long time. The maximum possible magnitude of the anisotropic acceleration (effecting pendulums) is calculated to be around 35μGal ($3{,}5*10^{-7} m/s^2$). The theory also predicts a completely new measurement method, which will revolutionize this aspect of science. It will now be possible to measure gravity anomalies at 150μGal magnitude ($1{,}5*10^{-6} m/s^2$) when using gravimeters at very special occasions. Before continuing it will be necessary to read: ***Modified Theory of Relativity (MTR) Part I***.

Keywords: *Allais effect, anisotropic acceleration, dark flow, flyby anomalies, Oumuamua*

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1. Introduction

Since the first claim in the 1950s when it was described as an anomalous effect, experimenters using pendulums have sporadically noted slight deviations when an eclipse is underway. Economic Nobel Prize winner Maurice Allais first reported his observations in 1954 when he noted that the pendulum in his Paris laboratory demonstrated a slight change in the precession of its plane of oscillation. Repeating his experiment in 1959, he obtained similar results. Numerous scientists have attempted to recreate his experiment with some claiming success and others reporting no changes to the pendulum movement.

Unfortunately, no theory has ever been able to explain why some solar (and lunar) eclipses disturb different kinds of pendulums and why it only happens sometimes and why the effect is sometimes delayed and sometimes happens before the eclipse, neither why different pendulums are sometimes able to measure the effect and gravimeters only very weakly or not at all. These days in darkness have now come to an end, and all these questions have now been answered. A decade ago, a few theses suggested various causes to solve the strange Allais effect phenomena; however, none of these were supported by any scientific method.

2003 Van Flandern, T.; Yang, X. S

"Relatively sharp changes in barometric pressure during an eclipse can certainly create local air mass movement at ground level, for example, into or out of a building. So experiments that were shielded only from temperature changes but not pressure changes may have experienced an extra and unexpected driving force from local air movement perhaps responsible for these changes, whereas other experiments with better controls would not have experienced them" [2]

2004 Chris P. Duif

"In recent years there has been a renewed interest in reports about anomalies during solar eclipses. Realizing that our understanding of gravity at galactic scales may be insufficient (giving rise to theories like MOND [Mil83, SanM02]),"

"Although, despite all proposed conventional explanations fail to explain the observations either qualitatively or quantitatively, it is still possible that the reported anomalies will turn out to be due to a combination of some of these

effects and instrumental errors. And, of course, there may be yet unidentified conventional causes which play a role. The judgement of some of the experimental results is hampered by the lack of a statistical analysis and/or data of sufficient length. Nevertheless, there exist some strong data which cannot be easily explained away.” [3]
2006 Alasdair Macleod
“Gravitational waves will certainly be subject to refraction by bodies such as the moon and we explore if such an effect can result in an error in the apparent position of the sources and thereby give rise to the characteristic pattern of response associated with the eclipse anomaly” [4]

2. Anisotropic Motion & Acceleration

An Anisotropic Acceleration can now be mathematically proven.

In order for a significant anisotropic acceleration to be measurable on Earth (e.g. with a gravimeter or various pendulums), specific conditions must be present.

It is somewhat similar to the situation that it is also impossible to measure the acceleration of Earth’s orbit acceleration from Earth (given that everything on Earth is part of the same acceleration frame of reference).

However, there is an indirect method of measuring Dark Flow Acceleration (in short DFA), which is the same force / acceleration responsible for the Allais Effect. [5]

The Following are required:

• The Earth must accelerate slightly opposite to DFA, (towards north) and the cause of the acceleration must be due to the force of gravity of the Moon (at a higher position on the northern hemisphere).

• A testing body on Earth (able to interact/measure DFA) must be (more or less) unaffected by the force accelerating Earth’s opposing DFA.

• The rotation of the Earth must bring a measurement device to the best possible position whereby the testing-body (of the measurement device) (more or less) can be affected by the exposed DFA.

Prediction: gravimeter at a correct position will (sometimes) be able to measure an upward unexpected acceleration of the Earth.

First a few words about Dark Flow

Two independent observations and measurements based on NASA and ESA research have confirmed that Dark Flow could be true, [6,7,8].

According to a NASA team led by Alexander Kashlinsky: The Dark Flow is directed towards the area between Hydra, Vela and Centaurus (Figure 1).

The Dark Flow Direction

Figure 1. Dark Flow is heading south

The latest WMAP confirms temperature variations in the form of spherical harmonic oscillation that seem to be relative to the movement of the Earth. These temperature variations are neatly separated in the northern and southern sky relative to the geometry of the ecliptic plane of the solar system. Also the Cosmic Microwave Background Radiation seems to be slightly warmer in the direction of movement of the Local Group of galaxies that includes the Milky Way galaxy. This connection or alignment has been named “the axis of evil" because of the possible controversial interpretations, and thus the potential damage it can do to current big bang and standard cosmology theories. Still dark flow is not definitive proven, but it must be noted that the possible cause of the Allais Effect (an anisotropic acceleration) can very easily adapt to observations based on the latest WMAP data.

Numerous Allais Effect research measurements during the decades have shown that an unknown force (at the minus 7 scale) [10,11,12] is occasionally exposed by a solar eclipse. Recently, this force has also been measured by lunar eclipses. Sometimes the effect is weak, sometimes strong, and sometimes no effect has been measured. Now, for the first time ever, a new theory is able to explain and mathematically prove exactly why these phenomena have been so mysterious.

The Cause-Effect & Magnitude

The crankshaft responsible for these phenomena is the motion of the Moon. Sometimes the Moon is situated above the Earth, sometimes below. Due to mass attraction between Earth and the moon, Earth is sometimes periodically accelerated slightly upwards (or downwards) on what is here called a Dark Flow Acceleration Axis (Figure 2).

As mentioned in *MTR part 1 (chapter 8 and 9)*, - not only 1.) Flyby-anomaly-effected-space-probes, 2.) Oumuamua, 3.) ISS, and 4.) Polar satellites are affected by “**R**elease of **D**ark **F**low related **R**elativistic **R**esistance against motion” (hereafter **RDFRR**). - The same “none-force” phenomena is responsible for weird periodically upwards accelerating of the Earth.

Some Solar (and Lunar) Eclipses (and also some full and new moon) are perfect occasions where exposure of RDFRR is possible for short time periods.

The pull of the Sun and Moon, in the Earth can (temporary) counteract DFA, the result is (partially) release of dark flow related tension, (RDFRR). This allows RDFRR to push (accelerate) the Earth upwards (north).

On the one hand the Earth is therefore accelerating upwards, - on the other hand a test body (on the Earth) - (at a higher altitude relative to earth's barycenter) (at the northern hemisphere), - let's say 3 to 5000 km higher, relative to ecliptic - is NOT (always) affected by any RR release (RDFRR) and is therefore not accelerating upwards (due to RDFRR).

The test body and Earth can therefore be brought to different acceleration reference frames where the test body relative to the upwards accelerating earth is at "acceleration – rest".

The difference between the upwards acceleration earth and a test body at relative rest, can be measured with pendulums at certain positions (for example France, Rumania, Ukraine etc.) and can be measured by gravimeters, more effective as ever thought.

Notice

RDFRR is not a force, just an acceleration (release of retracted kinetic energy).

RDFRR do not "interact" with any force and is therefore not involved in any "resulting force".

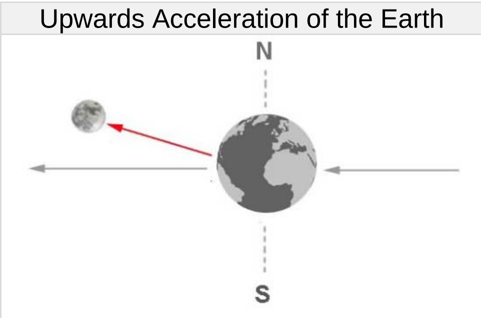

Figure 2. The Moon accelerates the Earth upwards

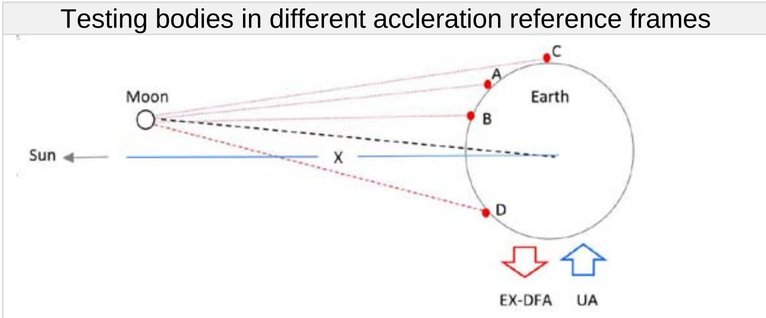

Figure 3 The Earth & testing bodies in different acceleration reference frames

EX-DFA = Exposed Dark Flow Acceleration. UA = Upwards Acceleration of Earth

Figure 3: The illustration shows a solar eclipse where the moon is located 2000 km higher relative to a parallel, linear line, 'X', between the Sun and Earth. This corresponds to approx. 0.3°. In that way, the Moon's acceleration due to gravity pulls the Earth towards the northern direction. This illustration shows the principle for **pendulum anomalies**.

- **Testing body A** (see illustration Figure 3) will not be directly affected by the upwards pull from the Moon, but only (indirectly) effected by the Earth's upward acceleration and is thus exposed to be influenced by RDFRR as long as this test body only is connected with the upwards accelerating earth, - via a cord (pendulum).
- On the other hand, **testing body B** (near the Equator) will almost be in the same frame of reference as the accelerating globe and measurement therefore exposed to RDFRR to a far less degree (because testing body B is also pulled upwards by the Moon).
- **Testing body D** (and others located south of B) is not exposed RDFRR measurement at all as these testing-bodies are all accelerating upwards, pulled by the Moon and hence all affected by RDFRR more or less similar to Earth.
- **Testing body C** is fully affected by the upwards acceleration of the Earth (in the same acceleration reference frame) and is therefore not exposed to RDFRR measurement.
- **Testing bodies** located between **A** and up towards **C** will gradually be more affected by the Earth's upwards acceleration and will therefore also be poor testing areas for detecting pendulum anomalies in this specific case (example).

The influence of the exposed DFA on the swing path's pendulums must follow.

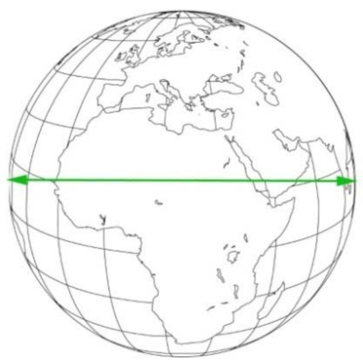

Figure 4. The Pendulum swings East West

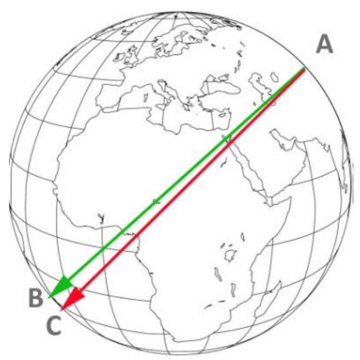

Figure 5. The Pendulum move from A to C

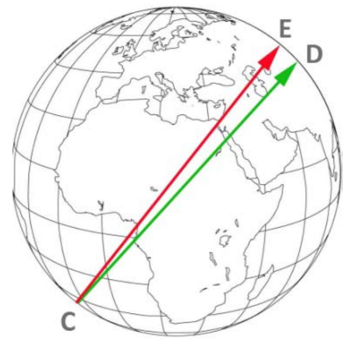

Figure 6. The Pendulum move from C to E

These images (Figure 4, 5 and 6) illustrates (a huge, exaggerated) pendulum swinging on Earth.

• The green line illustrates the expected path that a pendulum will follow the entire time.

• The red line illustrates the (unexpected) path the pendulum follows when RDFRR is exposed to measure.

• Figure 4, - If the pendulum swings exactly 90° (relative to the dark flow axis) which mean: east-west, an insignificant anomaly will occur.

• Figure 5 - If the swing angle relative to dark flow is a more or less than 90°, for example as illustrated by Figure 5 (motion from A to B (C), remarkable anomalies can be detected. Due to the push of RDFRR, the path that the pendulum follows will (in this case) rotate anticlockwise, and the pendulum will increase its kinetic energy.

• Figure 6 - When the pendulum swing from C to D (E) the upwards acceleration of Earth will also force the pendulum to rotate as well as continue to increase its kinetic energy).

3. The Resulting Acceleration Affecting the Earth

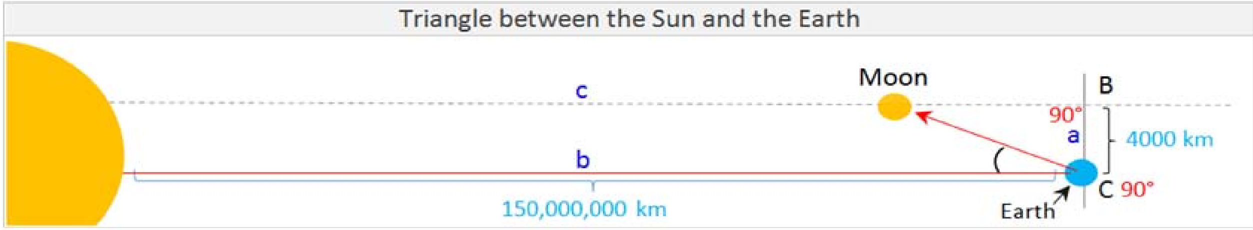

Figure 7.

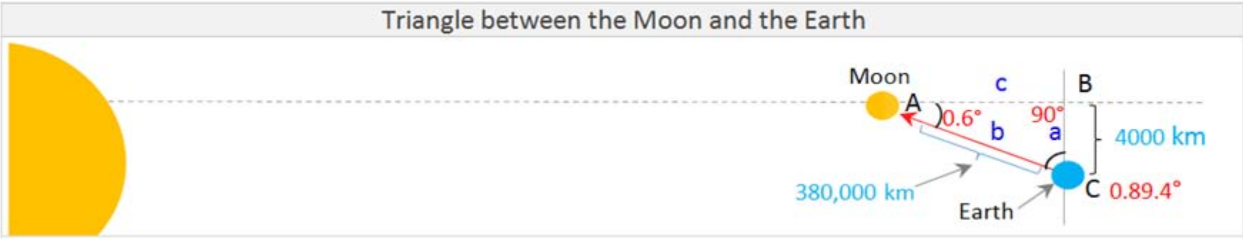

Figure 8.

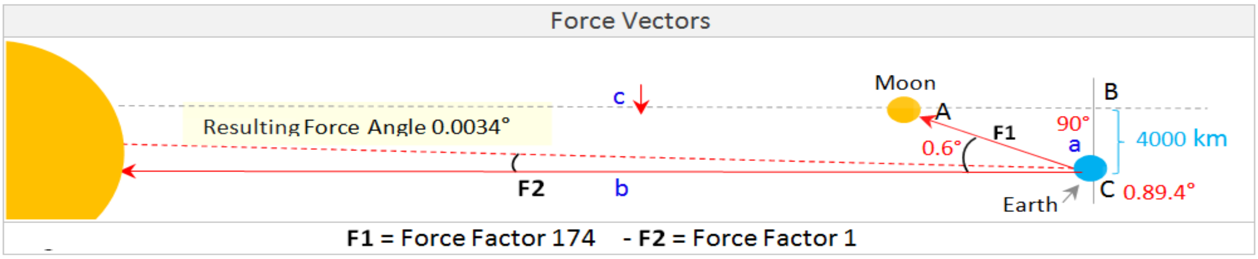

Figure 9.

Calculation of the Upward Acceleration of the Earth by an Eclipse						
a (km)	C (angle)	Resulting Angle	Upwards acceleration	Acceleration Result m/s² and µGal		
3.000	0.45°	0.0026°	sin(0.0026)0.006	=	0.00000027	27 µGal
4.000	0.60°	0.0034°	sin(0.0034)0.006	=	0.00000035	35 µGal
5.000	0.75°	0.0043°	sin(0.0043)0.006	=	0.00000045	45 µGal
6.000	0.90°	0.0051°	sin(0.0051)0.006	=	0.00000053	53 µGal
7.000	1.06°	0.0061°	sin(0.0061)0.006	=	0.00000063	63 µGal
8.000	1.20°	0.0068°	sin(0.0068)0.006	=	0.00000071	71 µGal
9.000	1,36°	0.0077°	sin(0.0077)0.006	=	0.00000081	81 µGal
10.000	1.51°	0.0086°	sin(0.0086)0.006	=	0.00000089	91 µGal
12.000	1.80°	0.0102°	sin(0.0102)0.006	=	0.00000053	106 µGal
15.000	2,26°	0.0143°	sin(0.0143)0.006	=	0.00000053	149 µGal
20.000	3.02°	0.0172°	sin(0.0172)0.006	=	0.00000179	179 µGal
25.000	3.76°	0.0214°	sin(0.0214)0.006	=	0.00000224	224 µGal
30.000	4.51°	0.0255°	sin(0.0255)0.006	=	0.00000267	267 µGal
The resulting Acceleration due to gravity of the Sun + the Moon (affecting Earth) = 0.006 m/s²						

Calculation of the Downwards Acceleration of the Test-body - caused by the Sun					
a (km)	A (angle)	Downwards acceleration		Acceleration Result m/s^2 and µGal	
6.000	0.0023°	sin(0.0023)0.006	=	0.00000025	24 µGal
7.000	0.0027°	sin(0.0027)0.006	=	0.00000028	28 µGal
8.000	0.0031°	sin(0.0031)0.006	=	0.00000032	32 µGal
9.000	0.0034°	sin(0.0036)0.006	=	0.00000036	36 µGal
10.000	0.0038°	sin(0.0038)0.006	=	0.00000040	40 µGal
12.000	0.0045°	sin(0.0045)0.006	=	0.00000047	47 µGal
15.000	0.0057°	sin(0.0057)0.006	=	0.00000059	59 µGal
20.000	0.0076°	sin(0.0076)0.006	=	0.00000080	80µGal
25.000	0.0095°	sin(0.0095)0.006	=	0.00000099	99µGal
30.000	0.0110°	sin(0.0110)0.006	=	0.000000115	115µGal
The Acceleration due to gravity of the Sun (affecting Earth) = 0.006 m/s^2					

Calculation of the Upwards Acceleration of the Test-body - caused by the Moon						
Moon altitude above 'arctic' (km)	Moon altitude (km)	A (angle)	Downwards acceleration		Acceleration Result m/s^2 and µGal	
1.000	7.000	0.15°	sin(0.15)*0.000034*	=	0.000000089	9 µGal
2.000	8.000	0.30°	sin(0.30)*0.000034*	=	0.000000178	18 µGal
3.000	9.000	0.45°	sin(0.45)*0.000034*	=	0.000000267	27 µGal
4.000	10.000	0.60°	sin(0.60)*0.000034*	=	0.000000356	36µGal
6.000	12.000	0.90°	sin(0.90)*0.000034*	=	0.000000534	34µGal
9.000	15.000	1.36°	sin(1.36)*0.000034*	=	0.000000806	81µGal
14.000	20.000	2.10°	sin(2.10)*0.000034*	=	0.000001245	124µGal
19.000	25.000	2.86°	sin(2.86)*0.000034*	=	0.000001696	169µGal
24.000	30.000	3.61°	sin(3.61)*0.000034*	=	0.000002149	214µGal
The Acceleration due to gravity of the Moon (affecting The test body) = 0.000034 m/s^2						

Moon altitude (km)	UP Acc Result Earth (µGal)	Up Acc Test Body (µGal)	Down Acc Test Body (µGal)	UP – Down Acc Diff (µGal)	**UP Acc Result - Earth** RESULT (µGal)
3.000	27			irrelevant	**27**
4.000	35			irrelevant	**35**
5.000	45			irrelevant	**45**
6.000	53			irrelevant	**53**
7.000	63	-9	+28	irrelevant	**63**
8.000	71	-18	+32	irrelevant	**71**
9.000	81	-27	+36	irrelevant	**81**
10.000	91	-36	+40	irrelevant	**91**
12.000	106	-34	+47	irrelevant	**106**
15.000	149	-81	+59	-22	**127**
20.000	179	-124	+80	-64	**115**
25.000	224	-169	+99	-70	**154**
30.000	267	-214	+115	-99	**168**

4. The Ultimate Allais Effect Measurement Method

By (some) solar (and lunar) eclipses, (and full and new Moons) the Moon pulls / accelerates the Earth slightly upwards (north) thereby DFA is cancelling out (to a certain extend) and RDFRR (to a certain extend) exposed for measurements.

A test body inside a **gravimeter** at a higher position (latitude) at the Earth and hence not affected by upwards pull of the Moon, and therefore also not effected by RDFRR, is what is required to measure the difference between the 2 acceleration frames (Earth and a test body).

- The **relative gravimeter** will measure the extra G, in the spring connecting the test body and the gravimeter body (and hence connected to the earth), - therefore RDFRR can be measured.
- The **absolute gravimeter** will accelerate upwards together with the Earth, - however the test body is not affected by RDFRR and hence not affected by upwards acceleration, - therefore RDFRR can be measured.

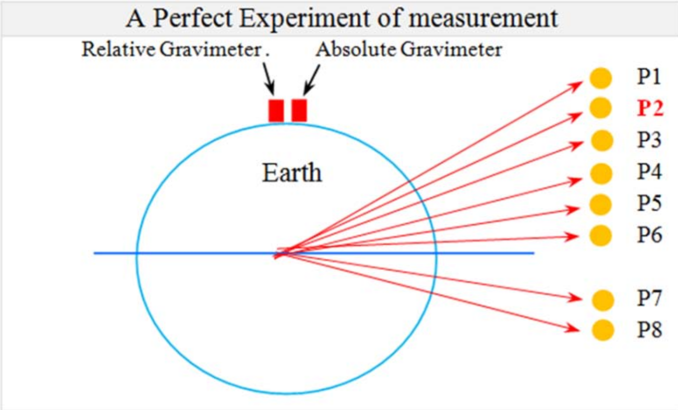

Figure 10. The Ultimate Allais Effect measurement Method

P1. Illustrates the moon 6500 km above the ecliptic of Earth (Figure 10) - this position of the moon, and position higher like that are perfect positions for measurement. see the calculations (frames) above for reference.

P2. Illustrates the moon at the same level / altitude as the 2 gravimeters (2 testing bodies) - this also a good position because the testing body inside the 2 gravimeters is now totally free to interact with RDFRR. Allais Effect can be measured (about 50µGal).. If the Earth was 10 times bigger (and the Moon still at position P2) the full magnitude of RDFRR could be measured (500µGal).

P3. And P4+P5 illustrate the moon lower than P2. The testing bodies (inside the 2 gravimeters) are (also) pushed slightly downwards due to the lower moon. Therefore, the full effect of the Allais Effect cannot be measured (only about 20-30µGal)..

P6. Illustrates the moon lower than the position P2. At this position, the Moon is not cancelling out much DFA, and hence RDFRR cannot accelerate the Earth enough upwards. Therefore, the anomaly is weaker at this point (only about 10-20µGal)..

P7. And P8 - The moon is too low; no effect will be measured.

The lunar eclipse on 7 August 18.20 UTC was predicted to be a possible event to test the above-mentioned claim.

Several universities (on the northern hemisphere) was encouraged to measure Acceleration Due to Gravity on that day.

Unfortunately, only DTU (Denmark) promised to see what they could do as they had a gravity measurement project going on in Greenland anyway (measuring how fast the inland ice is melting).

At the time of contacting DTU, the measurement teams had already scheduled the 2017 summer measurement missions to Greenland as well as the time to arrive at and leave various measurement places.

Early in the morning on 7 August (the day of the Lunar Eclipse), the team had scheduled to fly (by helicopter) from an inland measurement station and to Scorebysund airport and then to continue measuring ADG near that airport - 12 hours before and after the lunar eclipse - starting in the morning of 7 August and until morning on the following day, 8 August.

However, bad weather delayed the flight to the airport, and the gravity measurement (the day of the eclipse) was not started until 21.50 UTC. This was 3.5 hours after the culmination of the lunar eclipse. The measurement was competed 9.00 UTC a clock in the morning. An CG5 relative and A10 gravimeter was used. The measurement result is shown by the 2 graphs below.

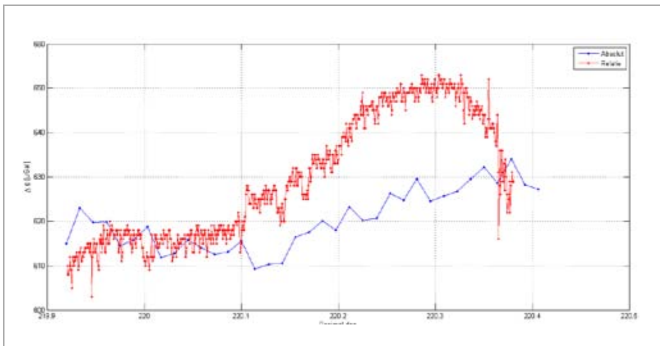

Figure 11a. Uncorrected.

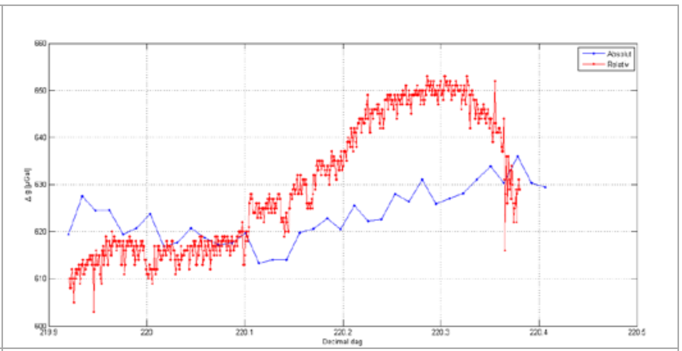

Figure 11b. Uncorrected Tidal and Earth Correction

The relative instrument revealed a 30µGal anomaly (sinus curve).

The absolute A10 gravimeter did not detect anything.

The explanation of what really was going on very early that morning is: that all kind of gravimeters can only measure (more or less) a vertical (addition) force vector.

The absolute A10 gravimeter do not allow much deviation from “absolute vertical”.

However, the CG5 relative gravimeter, allows (relative to the A10) much larger deviation.

From the CG5-data we can see that the anomaly lasted 4 hours.

The rotation speed of earth, at the surface of the Earth is at that position of the earth (Scorebysund) about 600 km/h.

Which mean that the CG5 could detect the anomaly from start to culmination, on a 1200 km path. (and after that also fading out 2 hours / on a 1200 km path)

At the anomaly culmination point the additional force vector is pointing (more or less) straight into the earth.

The coordinates for Scorebysund are: Latitude: 70.483°N - Longitude: 21.95°W.

The rotation of the Earth brought the gravimeter (placed on Latitude: 70.483°N) to an almost perfect measurement position, - where a significant part of the unknown force that day could be measured. (However, the perfect latitude is still not known, - but we are very close)

It will of course be time consuming to finetune / measure exactly which latitude is the perfect measurement position (whether it is further north or south relative to Latitude: 70.483°N)

So soon this exact position if found it is expected that all kind of gravimeters can measure that unknown force.

The exact position cannot be many hundred kilometers away (north/south) from Scorebysund (Latitude: 70.483°N).

To confirm the theory further (and as fast as possible) measurement close to latitude: 70.483°N must have highest priority.

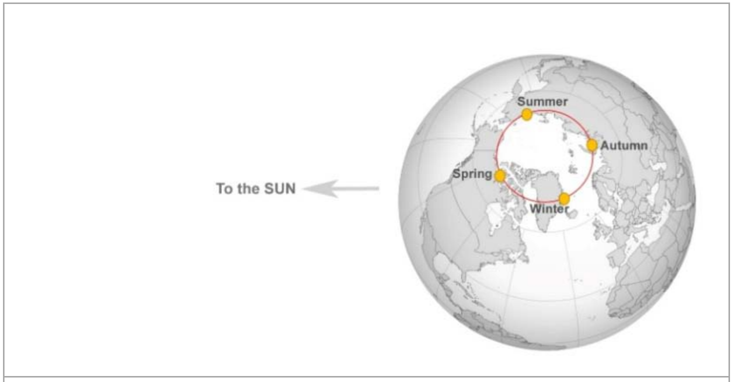

Figure 11c. Future Measurement must take place close to Latitude: 70.483°N

5. The Allais Effect is a Long-Lived Anomaly

Anomalies can be detected 24 hours starting by a gradually increasing anomaly, culminating by maximum solar eclipse and decreasing and gradually vanishing 12 hours after the solar eclipse.

The perfect position (P5) for measuring the Allais Effect with a pendulum is off course also when RDFRR accelerates the Earth slightly upwards without also directly pushing / accelerating a test pendulum upwards.

By using this method of measurement, also the best possible DFA interaction axis must be considered (Figure 12).

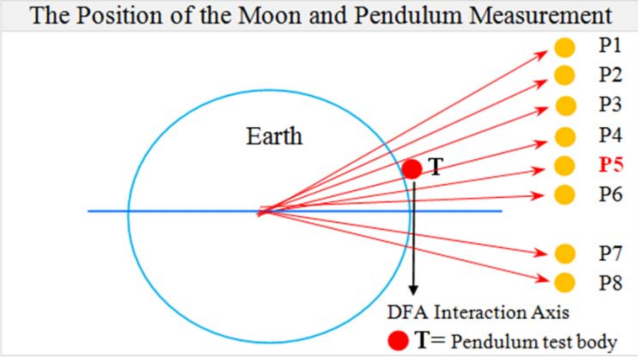

Figure 12. P5 = Perfect position of the Moon, **T** = Perfect position of the testing body

P1. If the Moon is at position P1, P2 and P3 (Figure 12), the testing body "**T**" will be pushed too much upwards by RDFRR. This is a bad position to measure exposed RDFRR, no or weak Allais Effect can be measured.

P4. At position P4, the Moon will still cancel out a part of DFA, but not enough to cancel out the exposed RDFRR. The Allais Effect can be measured, but not the full potential. (25µGal).

P5. The Moon at position P5 is the Perfect Position (**PP**) to allow a pendulum to measure the Allais Effect. Because the RDFRR doesn't push the testing body upwards and because the DFA interaction Axis is (almost) parallel to the DFA axis. (35µGal).

P6. At position P6, the moon is lower than the PP. The testing body is pulled slightly downwards by the lower moon. At this position, the moon cannot cancel out enough DFA. Hence RDFRR cannot accelerate the Earth enough upwards to be able to fully expose RDFRR to be measured. Therefore, anomalies are weaker.

P7. Position P8 is bad because the Earth is not accelerating upwards, and therefore DFA is not exposed.

Both experiences and calculation show that the period during which the Allais Effect can be measured is not only few hours but rather +/- 12 hours.

Also notice that it takes the moon 24 hours to reach a 0.34 degree higher or lower altitude which corresponds to the Moon only moving about 1700 km upwards or downwards. When the Moon is lower or higher relative to P5, this will naturally affect the magnitude of the anomaly as well.

All Allais Effect Pendulum measurements show that the Moon must be about 4000 km above the horizontal ecliptic in order to have maximum strength to allow RDFRR to accelerate the Earth enough upwards so that a significant Allais Effect can be measured.

The perfect position (P5) is where the maximum gravity anomaly is possible to measure (by using a pendulum). Any position lower or higher than this will weaken the anomaly. Because the moon inclines or declines 0.34° (within 24 hours) relative to the perfect position, this can naturally seriously weaken the anomaly. Based on all the measurement experience we have, there is reason to conclude that it must be possible to trace a tiny rest of the anomaly even within a range of 24 hours.

The reason why we believe the anomaly is short-lived is that this is only true seen from a local perspective, not seen from an overall perspective. This claim is already supported by evidence.

The measurement 1 of August 2008 that took place in Ukraine and Romania was far away from the shadow of the moon. The onset of the Allais Effect anomaly was several hours delayed.

The anomaly was measured several hours after the Solar Eclipse was over. The cause of this delay is that testing bodies A1 and B1 (in Romania and Ukraine) should first be brought to the "perfect position (to position A2 and B2) by the rotation. The effect on testing body B1 was more delayed than the effect on testing body A, simply because the distance to travel from B1 to B2 was larger than the distance between A1 and A2.

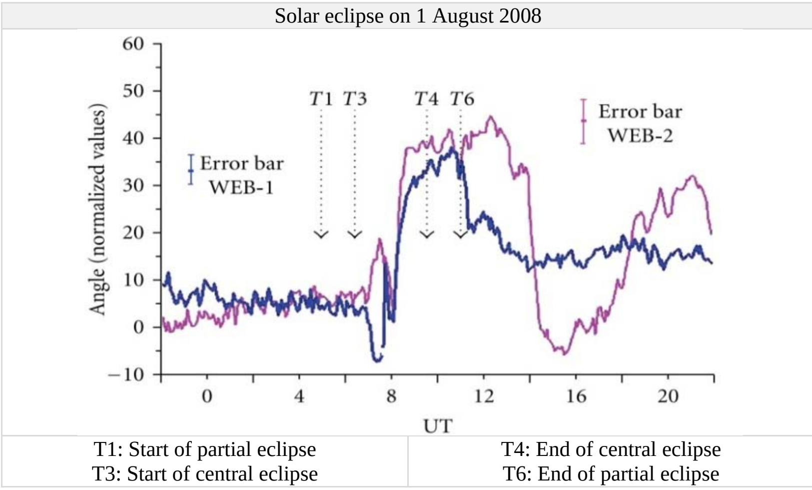

Figure 13. Chart of the recorded variations of the azimuths of the torsion balance pointers. Source [13]

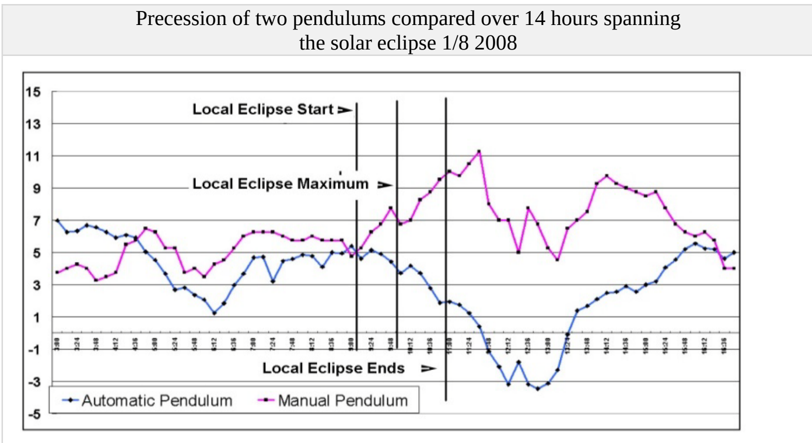

Figure 14. Behavior of automatic and manual ball-borne pendulums during the eclipse. Source [14]

Measurement 1 of August 2008 took place in Ukraine and Romania

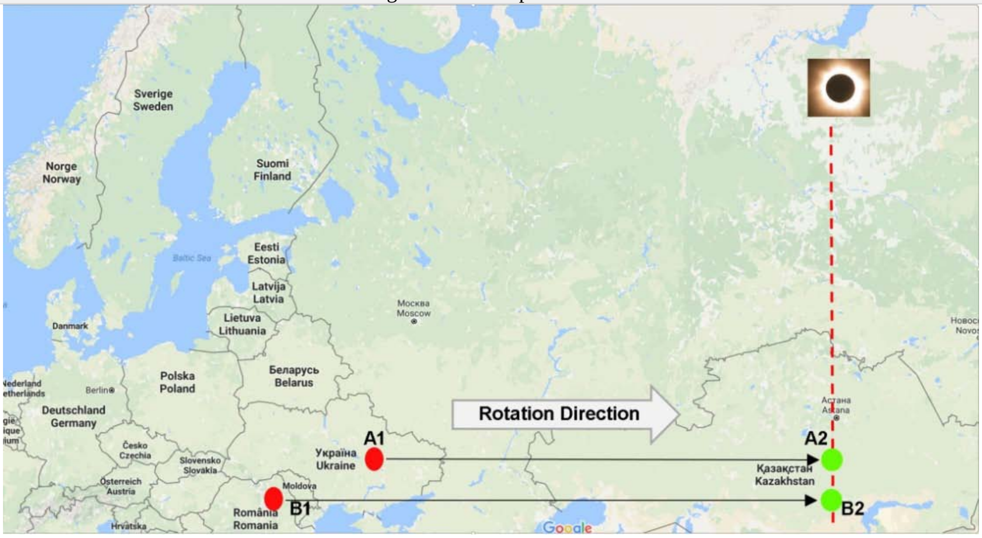

Figure 15. The Allais Effect is a long-lived anomaly

There is no doubt that if there would have been a measurement taken between A1 and A2, these too would have shown the anomaly – however, not as delayed as in Ukraine and Romania.

Since no worldwide coordinated research has ever been executed, we can only guess what would have happened if measurements had also been taken further west - in Northern Italy, France, a few places in the Atlantic sea and in America.

Would the anomaly also be measured here as well?

The answer is YES - but the answer is also that the maximum effect would only have been measured one place on earth. If worldwide measurement would have taken place, it would have revealed an anomaly increasing a half day before a solar eclipse, and gradually fading out a half day.

6. Measurements

Now let us try to test this theory in reality based on all the Allais Effect measurements that have taken place during the decades.

Comparison of the azimuths observed during the two eclipses of June 1954 and 2 October 1959

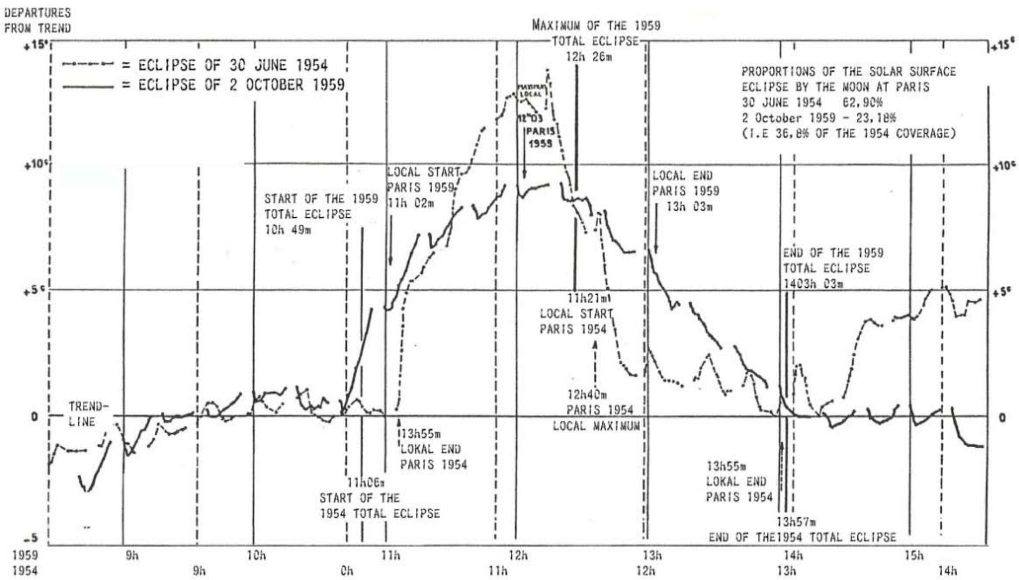

Figure 16. Source: Allais, unpublished note of 10 November 1959, Movement of the paraconical pendulum and the total solar eclipse of 2 October 1959

Solar eclipse of June 30 1954

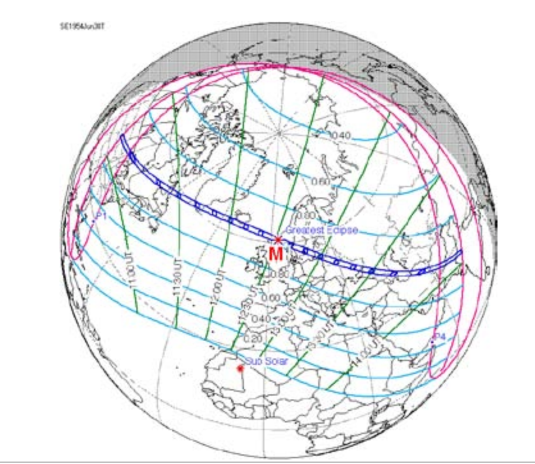

Figure 17. The measurement “M” took place in France

Solar eclipse of October 1959

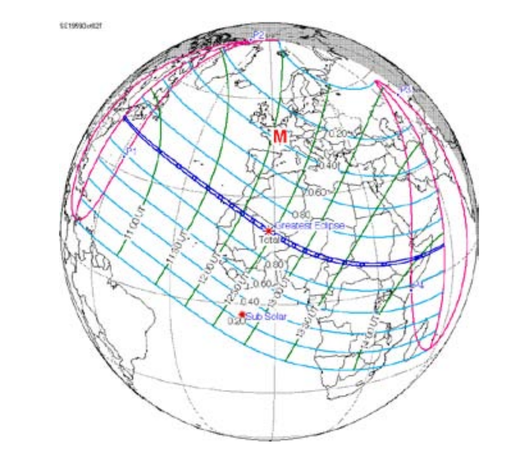

Figure 18. The measurement “M” took place in France

Common for the 2 Solar Eclipses measured by Marius Allais in 1954 and 1959: at the time when the Allais Effect was detected, the Moon was about 4000 to 6000 km above the subsolar point. This means that at both of these events, the Earth was accelerating upwards during the periods of solar eclipses. Thus, RDFRR was exposed for measurement. Another common feature is that the measurements took place in France both years (Figure 16).

1954, 30 June - measured in France

At the time of the solar eclipse, the Moon was about 1° (6600 km) above the subsolar point. This corresponds to an upwards acceleration of the Earth at 45 μGal. (4,*5*10*$^{-7}$*m/s*^{2}).

But at the same time, the Moon was also 0*.3*° above the measurement position (in Paris). This corresponds to an upwards acceleration of the testing body at 15μGal.

The magnitude of the exposed RDFRR able to affect the testing body at that time of the day must therefore have been a total of 35μGal, (minus 12μGal) = 30μGal. (Figure 17 & Figure 19) [5]

The best possible Exposed Dark Flow Test Interaction Positions

France Autumn

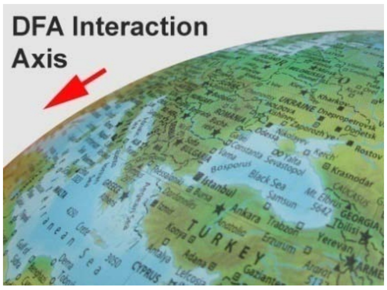

Figure 19. The Flow Acceleration Direction is no longer fully visible on the southern horizon. Therefore, the exposed Dark Flow interaction is reduced (in other words: the Dark Flow interaction axis is not perfect.)

France Summer

Figure 20. Summer time in France. The Dark Flow Acceleration Direction is viewable on the Southern horizon.

Earth Rotation , DFA & DFA-i

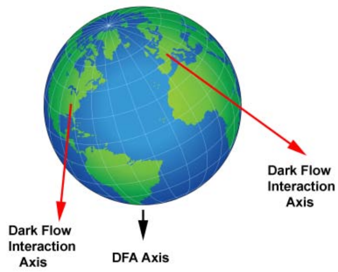

Figure 21. The rotation of Earth brings a testing body to the best possible exposed DFA position (whereby the DFA interaction axis and the DFA axis are as parallel as possible

1959, 2 October - measured in France

On that same day, Marius Alias also took measurements in Paris and detected the Allais Effect.

This measurement was taken in the autumn where the tilt of the axis of the Earth had brought France and therefore the measurement device about 3000 km further north compared to summer on the northern hemisphere (Figure 18).

The best possible measurement result must be expected when the testing body can ‘disconnect’ from earth’s upwards acceleration. This is possible when the DFA direction is visible on the southern horizon, or in other words: the strongest Allais Effect must be expected when the DFA axis and the *DFA Interaction axis* are parallel *as illustrated by* Figure 21. The bad alignment with the *DFA interaction axis* is the cause of the effect measured in 1959 being weaker compared to

1954. The conclusion is therefore that the bad DFA interaction axis is a stronger negative effect compared to the 12μGal upwards acceleration of the testing body in 1954 (Figure 18 & Figure 20). [5]

Solar eclipse of March 7 1970

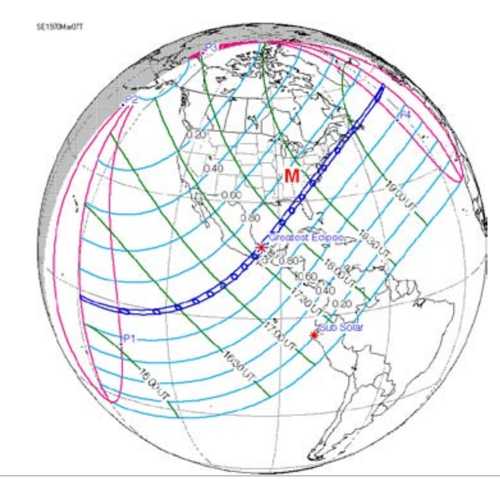

Figure 22. Measurement "M" took place in France

Solar eclipse of June 20 1974

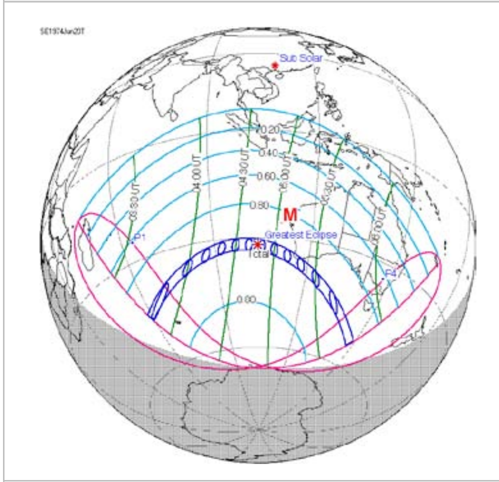

Figure 23. Measurement "M" taken in Perth Australia

1970, 7 March, measured in the USA

The Allais Effect was confirmed; the Moon accelerating Earth upwards, RDFRR exposed (Figure 22). [5]

1974, 20 June, measured in Perth, Australia

The Allais Effect was measured, but no anomaly was detected, obviously because Earth was accelerating downwards as did the testing body on the southern hemisphere (Figure 23). [5]

Solar eclipse of August 10 1980

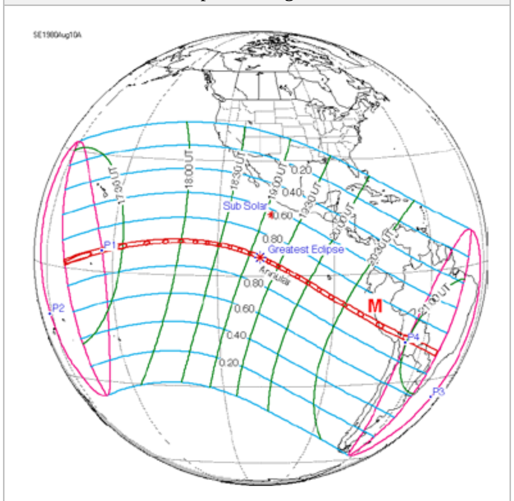

Figure 24. Measurement "M" took place in Peru Red path shows the Moon moving south

Solar eclipse of July 22 1990

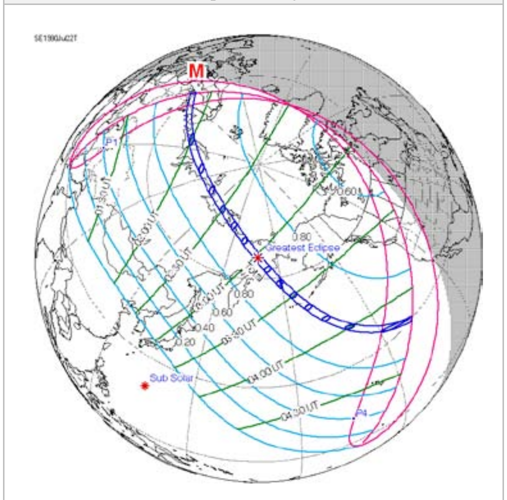

Figure 25. Measurement "M" took place in Finland Blue path shows the Moon moving north

1980, August, measured in Peru

The Allais Effect was measured. The Moon is below the subsolar point, and thus there was no upwards acceleration of Earth, hence no exposed RDFRR and no Allais Effect was confirmed (Figure 24). [5]

1990, 22 July, measured in Finland

Only **a** weak Allais Effect might have been measured in **Finland**. This is as expected (Figure 25) [5]

Solar eclipse of July 11 1991

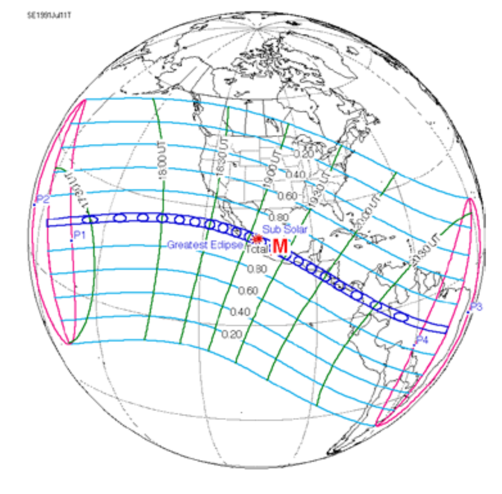

Figure 26. Measurement "M" took place in Mexico

Solar eclipse of May 10 1994

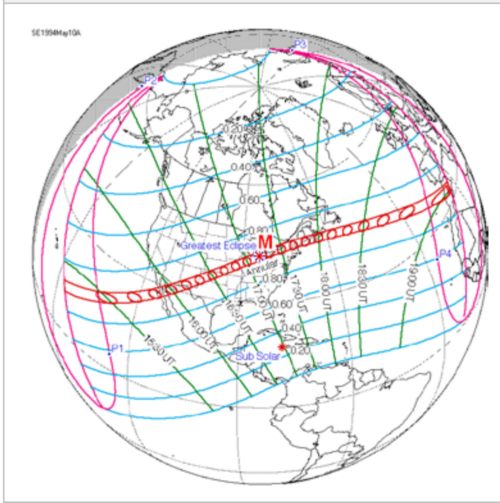

Figure 27. Measurement "M" took place in USA

1991, 11 July, measured in Mexico

The Moon and the testing body were in the same acceleration frame of reference, hence no RDFRR was exposed, and no Allais Effect measured (Figure 26). [5]

1994, 10 May, measured in Canada

Gravity measurements confirmed the Allais Effect, but the result was very week. This is also as expected. The weak result is due to the bad DFA interaction axis. (Figure 27). [5]

Solar eclipse of October 24 1995

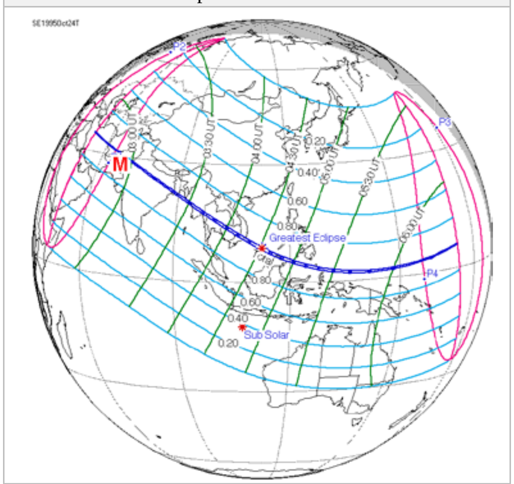

Figure 28. Measurement "M" took place in N. India

Solar eclipse of March 9 1997

Figure 29. Measurement "M" took place in N. China

1995, 10 October, measured in Northern India

The Allais Effect was measured and confirmed by chance. The Allais Effect was measured a few hours before the maximum eclipse took place. The Moon was above the subsolar point, and DFA was therefore exposed (Figure 28). [5]

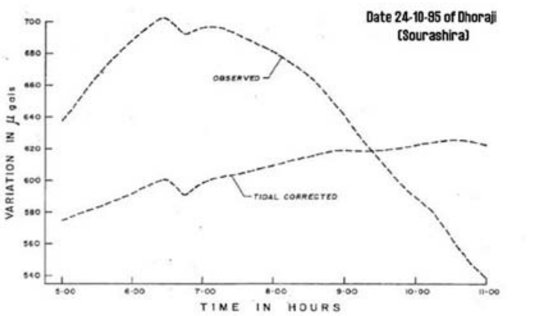

Figure 30. Acceleration due to gravity. The flat curve of the tidal force is filtered.

Figure 31. It is remarkable, but no longer mysterious, that the Allais effect was measured in the morning in Northern India.

In the early morning of **24 October 1995**, a gravity measurement was taken for oil exploration purposes in northern India when by chance the Allais Effect was measured (12μGal). This anomaly must be considered as an ASAM anomaly.

1997, 9 March, measured in Northern China

Similar Allais Effect measurements were taken in northern China, but this time only showing an anomaly at 6μGal. (Figure 29). [5]

Solar eclipse of August 11 1999

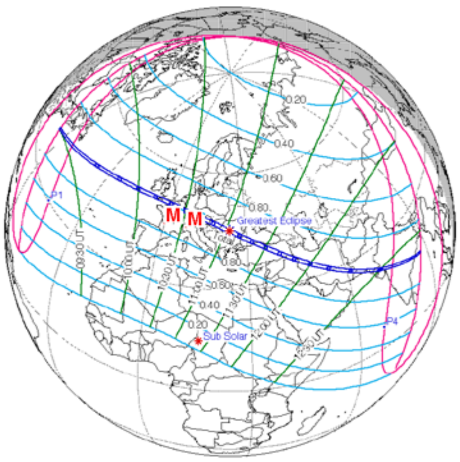

Figure 32. Measurement "M" and "M"" Austria, France

Solar eclipse of June 21 2001

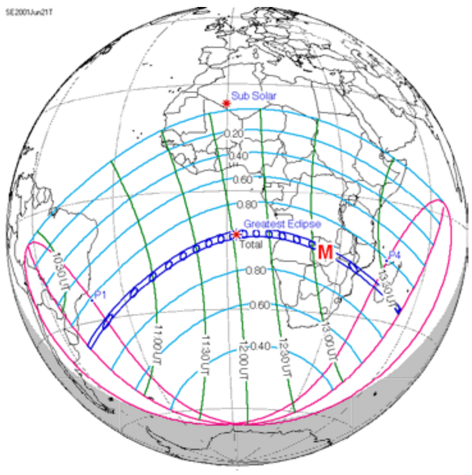

Figure 33. Measurement "M" took place in Zambia

1999, 11 August, measured in Austria & France

This eclipse was perfect to detect and measure the Allais Effect, This result is as expected (Figure 32). [5]

2001, 21 June, measured in Zambia

This eclipse took place too far to the south, no upwards acceleration of the Earth was taking place, and the measurement in Zambia therefore did not confirm the Allais Effect (Figure 33). [5]

Solar eclipse of May 31 2003

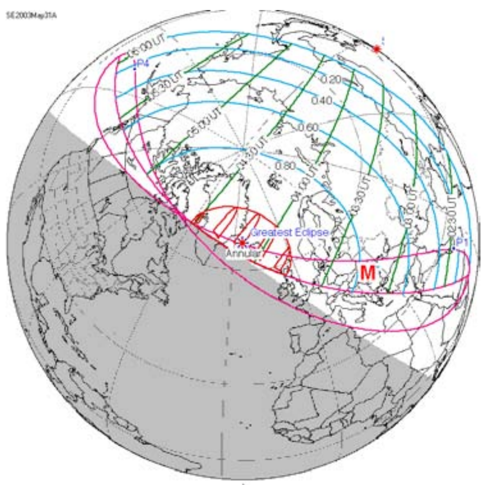

Figure 34. Measurement "M" Romania

Solar eclipse of April 8 2005

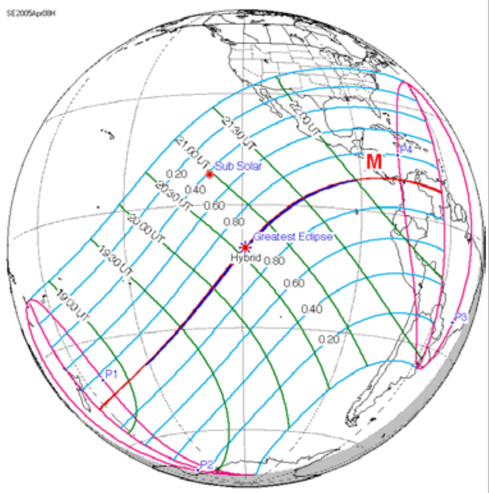

Figure 35. Measurement "M" Panama (and Romania)

2003, 31 May, measured in Romania

The Allais Effect was confirmed. The upwards acceleration of the Earth is stronger than the upwards acceleration of the testing body when the eclipse took place whereby DFA was exposed and the Allais Effect was measured [5] (Figure 34).

2005, 8 April, measured in Panama & Romania

The Earth was accelerating downwards due to the pull from the lower Moon whereby DFA was not exposed. Hence no Allais Effect was measured on the day of the Eclipse in **Panama** where measurements were taken. [5] (Figure 35).

On the other side of the Earth, in **Romania,** a paraconical pendulum and a conical pendulum were affected, but the testing bodies in Romania were disturbed (periodically accelerating downwards) due to attraction from the Moon. Therefore, a well-known force (the Moon) affected the pendulums in Romania and not the Allais Effect [5] (Figure 36).

Earth & the testing body in two different downwards acceleration reference frames

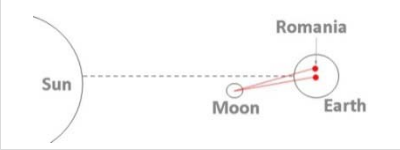

Figure 36. The Moon accelerating the testing body & the Earth downwards

Solar eclipse of March 29 2006

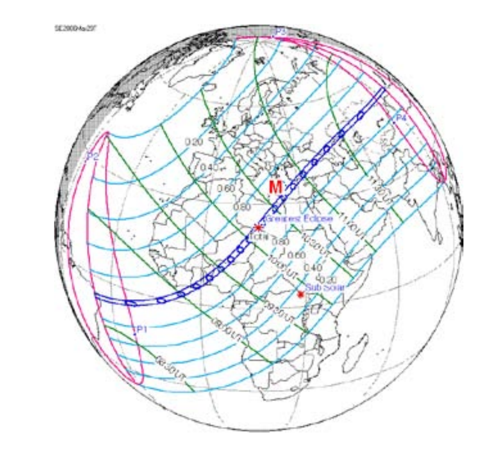

Figure 37. Measurement "M" took place in Turkey

Solar eclipse of September 22 2006

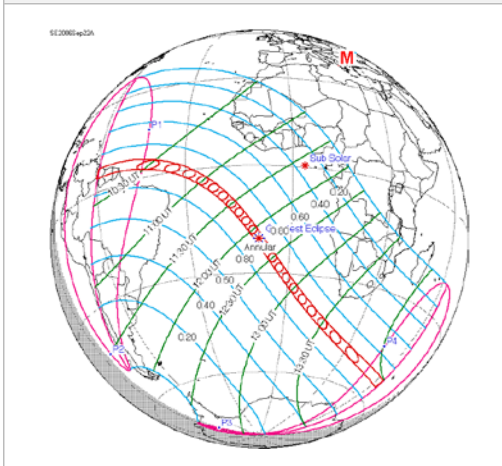

Figure 38. Measurement "M" took place in Romania

2006, 29 March, measured in Turkey

The Allais Effect was properly confirmed by gravity measurements. Aperiodic oscillations in tilt were recorded at the two locations on the center line. These may be related to the eclipse phenomenon (Figure 37). [5]

2006, 22 September, measured in Romania

The Earth was accelerating downwards due to the pull from the lower Moon whereby DFA was not exposed. Weak disturbances were detected in Romania. The situation is similar to a measurement the year before (8 April 2005) explained above [1,5]

Solar eclipse of August 1 2008

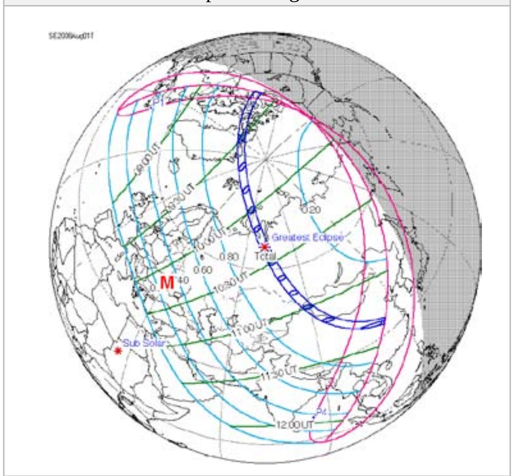

Figure 39. Measurement "M" Romania and Ukraine

Solar eclipse of August 1 2008

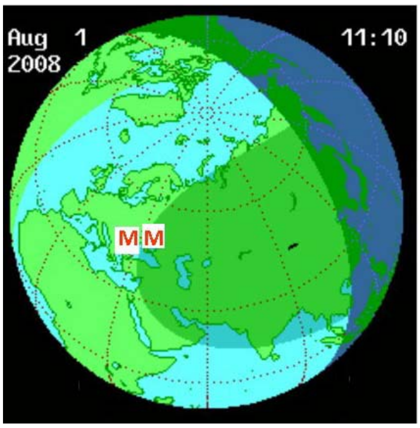

Figure 40. "M" and "M" Romania and Ukraine

2008, 1 August, measured in Romania and Ukraine

The Allais Effect was measured at both locations mentioned above, but the Allais Effect was several hours delayed. This was due to the fact that when the eclipse took place, the testing body was too strongly affected by upwards acceleration towards the Moon. Several hours later, the Moon had moved further south, and the testing body further west. After these few hours, the testing body was no longer affected by upwards acceleration, but the Earth still accelerated upwards due to the higher position of the Moon. Therefore, the DFA was exposed, and the Allais Effect could be detected after a few hours of delay (Figure 39 & Figure 40). [5]

Solar eclipse of January 26 2009

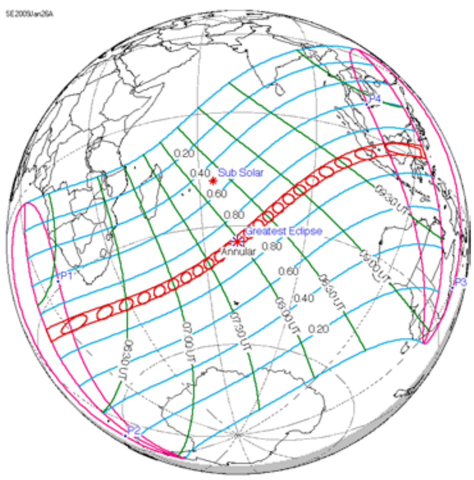

Figure 41. Measurement took place in Romania

Solar eclipse of July 22 2009

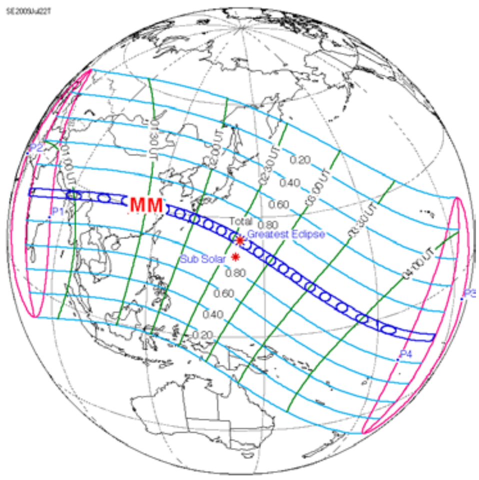

Figure 42. Measurement "M" and "M" - China

2009, 26 Jan, measured in Romania and Ukraine

At the time of the day when the eclipse took place, the Moon was below the subsolar point, therefore accelerating downwards, and therefore no exposure of DFA took place.

A relatively much stronger downward acceleration was exerted on the testing bodies (in Romania) compared to the downwards acceleration of the Earth. Both of these accelerations were caused by the low Moon. Therefore, the downwards acceleration on the testing bodies was not caused by the Allais Effect but rather by the low Moon, and the Allais Effect was not confirmed that day. A low moon is strong enough to affect various kinds of pendulum 'anomalies' (Figure 41). [5]

2009, 22 July, measured in China

The Allais Effect was measured **in China**. The Allais Effect was confirmed. This is as expected.

The effect was relatively weak due to the fact that the Moon is not very much higher than the subsolar point (Figure 42).

Solar eclipse of July 11 2010

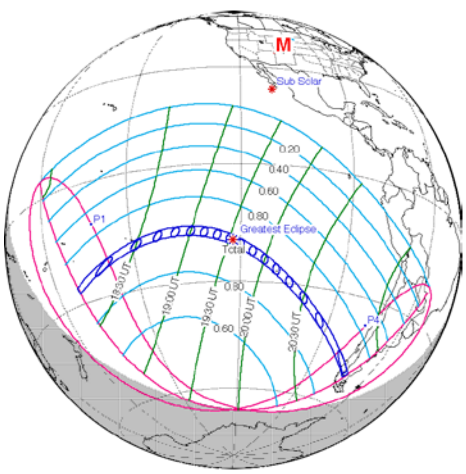

Figure 43. Measurement "M" took place in USA

Solar eclipse of June 1 2011

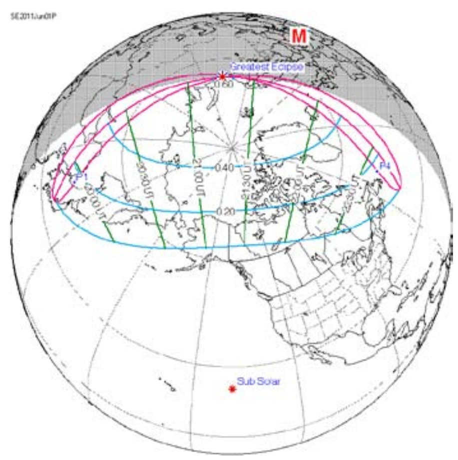

Figure 44. Measurement "M" took place in Romania

2010, 11 July, measured in the USA

On that day, the DFA was not exposed anywhere on the planet, and no Allais Effect was confirmed (Figure 43). [5]

2011, 1 June, measured in Romania

The Allais Effect was confirmed (measured on the night side of the planet).

This is also as expected since the RDFRR was exposed due to the upwards acceleration of the Earth.

Notice that Romania at that time was about 5000 km further north compared to the subsolar point at the Sun side of the Earth. The reason obviously is due to the axis tilt of the Earth. Because of that, the testing body was influenced by the upwards acceleration towards the Moon to a much weaker degree compared to the Earth, and therefore - to a certain degree - free to interact with the exposed RDFRR (Figure 44). [5]

7. Conclusion

Much evidence (including Dark Flow) is pointing to an anisotropic acceleration (and motion) of (at least) a large part of the Universe being a reality. Although one might think that such significant acceleration is utopia because everything would then have to reach speed c, keep in mind that we also know that it requires ever more energy to maintain constant acceleration (in empty space). There may very well be a few more lessons to learn, one of these is Relativist Resistance against Motion.

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