

# The Cause of the Allais Effect Solved

**Bjarne Lorenzen**

VUC, Kolding, Denmark

Email: [bjarne.lorenzen@yahoo.com](mailto:bjarne.lorenzen@yahoo.com)

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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. Still different pendulums are the most effective instrument to use. The reason why such strange devices are the best option is also no longer a mystery. This new theory also uncovers why advanced instruments can't be used successfully, which also explains why such significant acceleration could have been hidden for such a long time. The exact magnitude of the anisotropic acceleration is calculated to be around 35  $\mu\text{Gal}$  ( $3.5e^{-7} \text{ m/s}^2$ ), and not much deviation must be expected in the years to come.

## Keywords

Allais Effect, Anisotropic Acceleration, Dark Flow

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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, either 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 of these 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 [Mi83, 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 DFAD, (towards north) and the cause of the acceleration must be due to the force of gravity of the Moon.
- 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 interact with the exposed DFA.
- The pendulum must swing east-west—not north-south.
- A relatively fast and sudden change of the DFA exposure must be present for gravity measurement results to be significant/convincing (Pendulums are more sensitive, and therefore a better device to use).

These requirements allow a testing body to be exposed to DFA, whereby anomalies can be measured.

**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] and [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 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) [9] [10] [11] [12] is occasionally



Figure 1. Dark flow is heading south.

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.

### 3. 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).

Solar Eclipse (as well as Lunar Eclipses) are perfect occasions—where the slightly upwards or downwards acceleration of the Earth undergoes remarkable changings. This is why eclipses are perfect occasions where the exposure of DFA can happen for short time periods. ????

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

#### Upwards Acceleration of the Earth

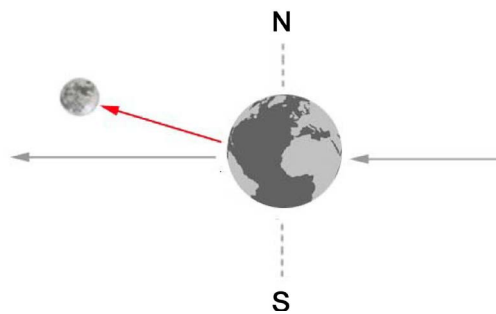


Figure 2. The Moon accelerates the Earth upwards.

#### Testing bodies in different acceleration reference frames

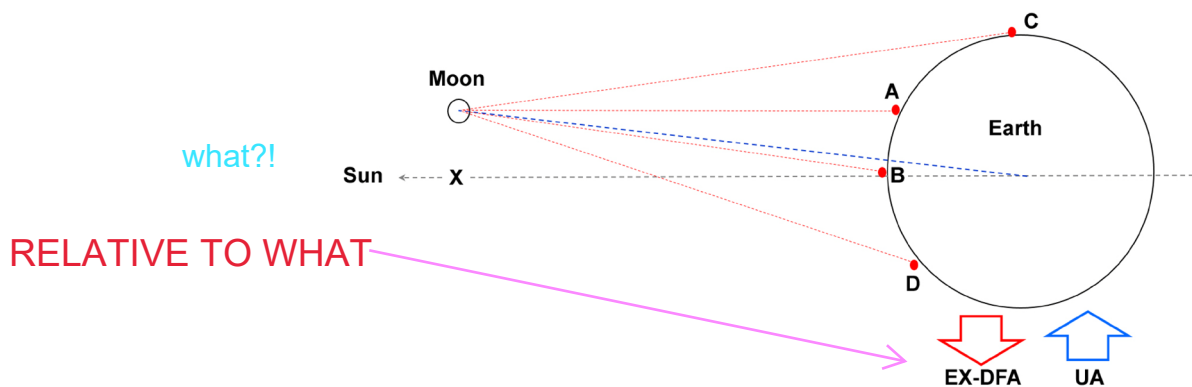


Figure 3. The Earth & testing bodies in different acceleration reference frames EX-DFA = Exposed Dark Flow Acceleration. UA = Upwards Acceleration of Earth.

*pulls the Earth in the northern direction with an acceleration which can be calculated by  $GM/r^2$  ( $7.35e^{22} \times 6.67e^{-11}/380000000^2$ ) divided by  $90^\circ = 0.00000037 \text{ m/s}^2$  (or  $37 \mu\text{Gal}$ , per  $1^\circ$ ) (the result is therefore  $12 \mu\text{Gal}$ ).*

- **Testing body A** (see illustration) will therefore 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 influence by DFA, so long as this body is not connected with earth.
- On the other hand, **testing body B** (near the Equator) will almost be in the same frame of reference as the accelerating globe and will therefore be exposed to DFA to 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 to DFA influence at all, as these testing-bodies are all accelerating upwards, pulled by the Moon.
- **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 DFA.
- **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.

**This image 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 DFA is exposed.
- **Figure 4**—If the pendulum swings exactly  $90^\circ$  east-west (between A and B) relative to the DFA axis, an insignificant anomaly will occur. **Allais researchers must pay attention to that.**
- **Figure 5**—If the swing angle relative to dark flow is a little larger or smaller than  $90^\circ$ , for example as illustrated by **Figure 5** (motion from C to D), remarkable anomalies can be detected. Due to the pull of DFA, 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 moves from D to E the upwards acceleration of Earth will also force the pendulum to rotate as well as continue to increase its kinetic energy.
- However, when following the path from E to F, the opposite influence is expected.

#### 4. 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.

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 Sub Solar point. This means that at both of these events, the

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

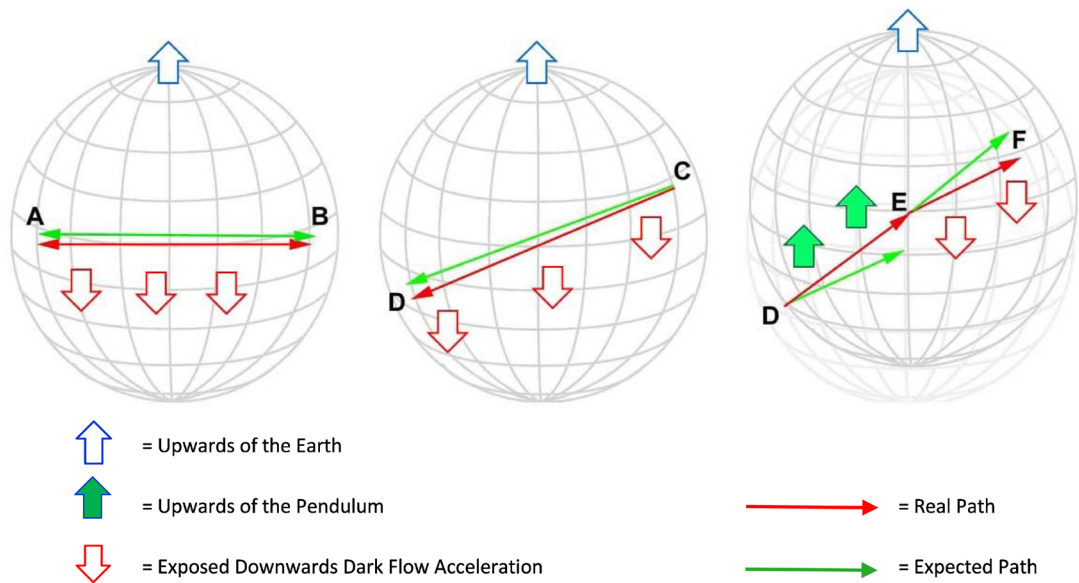


Figure 4. The Pendulum swings between A & B. Figure 5. The Pendulum move from C to D. Figure 6. The Pendulum move from D to E to F.

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

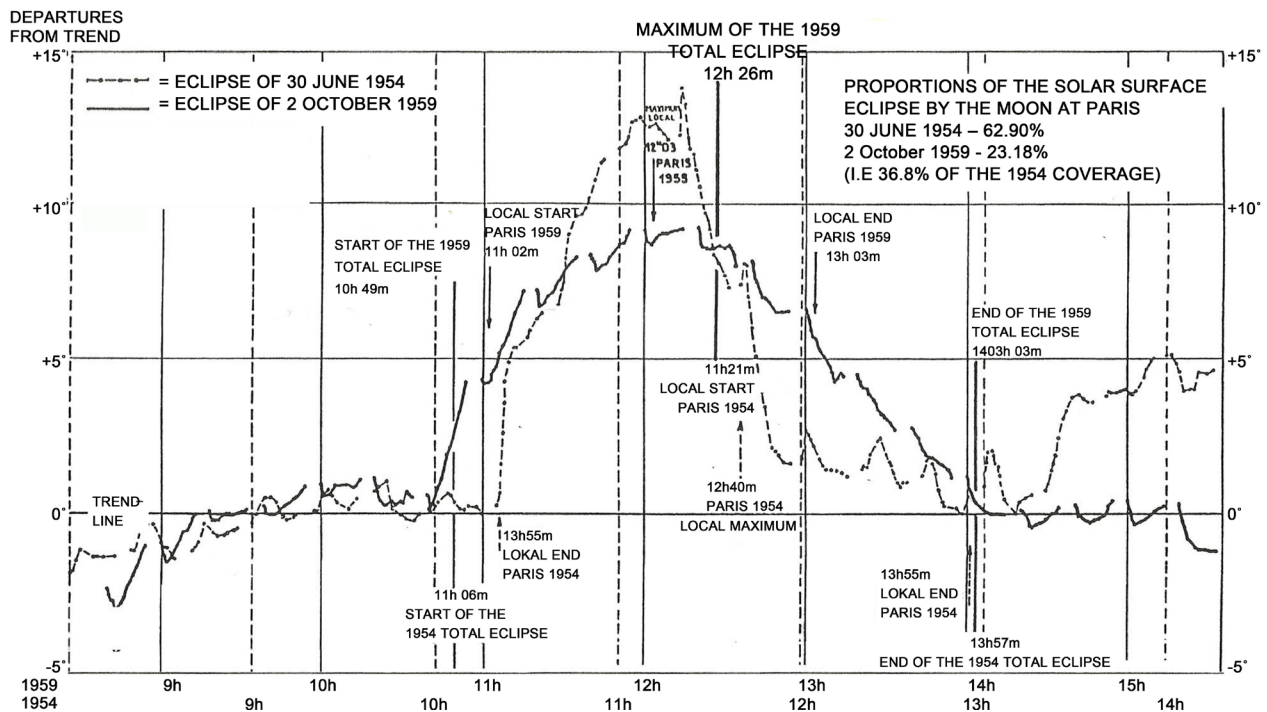


Figure 7. Source: Allais, unpublished note of 10 November 1959, Movement of the paraconical pendulum and the total solar eclipse of 2 October 1959.

Earth was accelerating upwards during the periods of solar eclipses. Thus, DFA was exposed. Another common feature is that the measurements took place in France both years (Figure 7).

**1954, 30 June—measured in France**

The Moon was at the solar eclipse about 1° (6600 km) above the Sub Solar

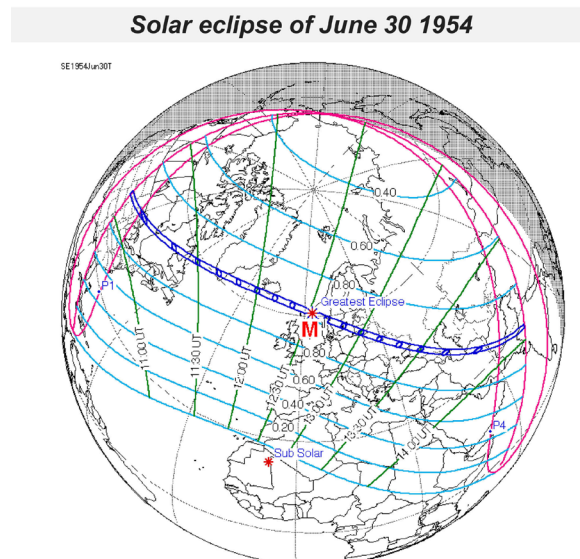
point. This corresponds to an upwards acceleration of the Earth at  $37 \mu\text{Gal}$ . ( $3.7e^{-7} \text{ m/s}^2$ ).

But at the same time, the Moon was also  $0.3^\circ$  above the measurement position (in Paris). This corresponds to an upwards acceleration of the testing body at  $12 \mu\text{Gal}$ .

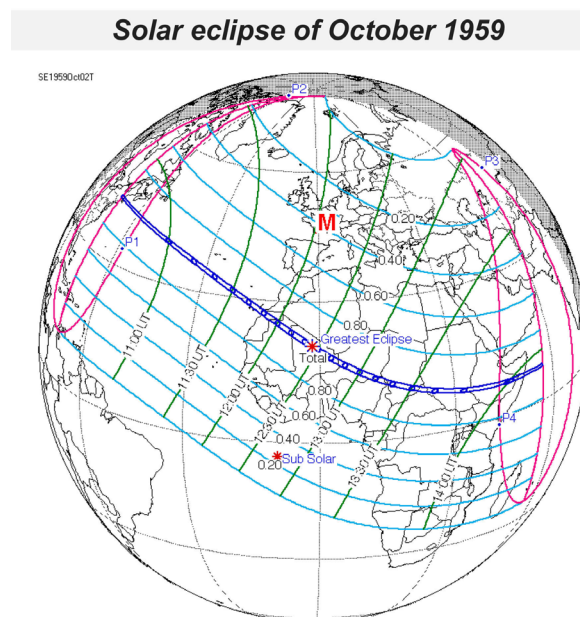
The magnitude of the exposed DFA able to effect the test body at that time of the day must therefore have been a total of  $37 \mu\text{Gal}$ , (minus  $12 \mu\text{Gal}$ ) =  $25 \mu\text{Gal}$ . (**Figure 8 & Figure 10**) [5].

#### 1959, 2 October—measured in France

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



**Figure 8.** The measurement “M” took place in France.



**Figure 9.** The measurement “M” took place in France.

France Autumn

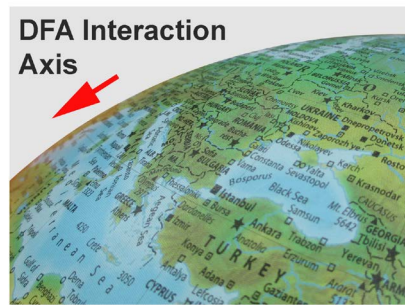


Figure 10. Summer time in France. The Dark Flow Acceleration Direction is viewable on the Southern horizon.

France Summer



Figure 11. The Flow Acceleration Direction is no longer fully visible on the southern horizon. Therefore, the exposed Dark Flow interaction is reduced. (or in other words: the Dark Flow interaction axis is not perfect.)

Earth Rotation , DFA & DFA-i

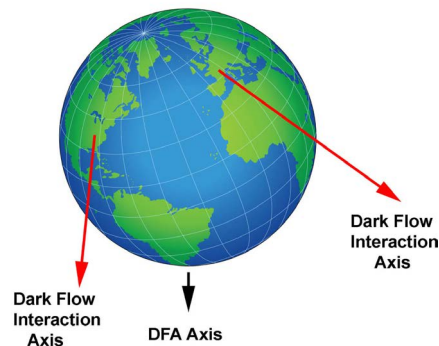


Figure 12. The rotation of Earth brings a testing body to the best possible exposed DFA position (whereby the DFA interaction axis and the DFA axis are as parallel as possible).

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 9).

The best possible measurement result must be expected when the test 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 12. The bad alignment with the *DFA in-*



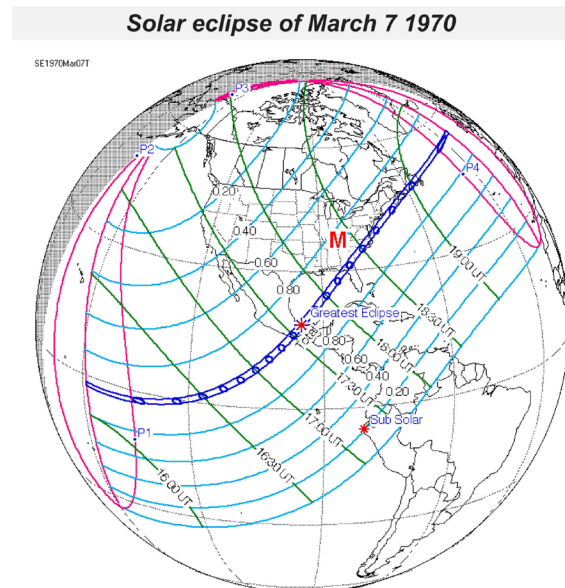
*teraction axis* is the cause of the effect measured in 1959 being weaker compared to 1954. The conclusion is therefore that the bad DFA interaction axis is a stronger negative effect compared to the  $12 \mu\text{Gal}$  upwards acceleration of the testing body in 1954. (**Figure 9** & **Figure 11**) [5].

**1970, 7 March, measured in the USA**

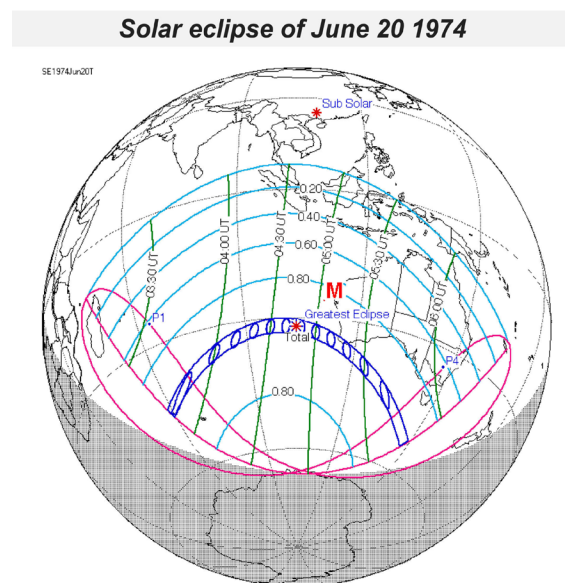
Allais Effect was confirmed; The Moon accelerating Earth upwards, DFA exposed (**Figure 13**) [5].

**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 14**) [5].

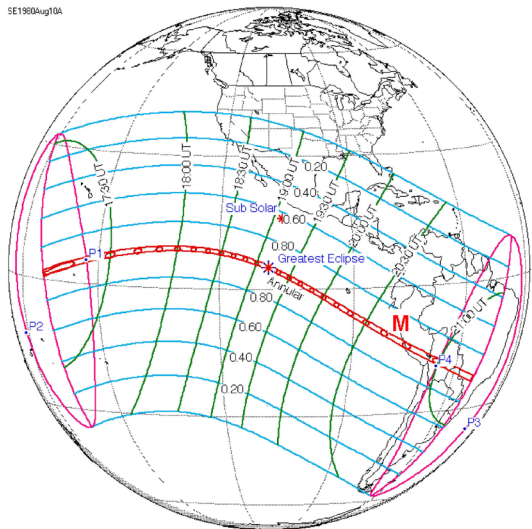


**Figure 13.** Measurement “M” took place in France.



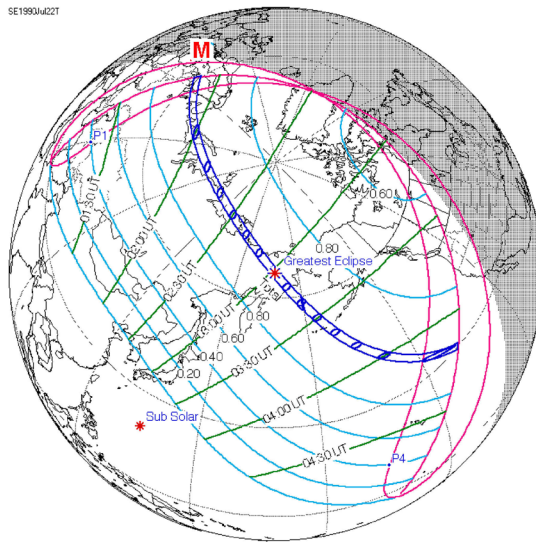
**Figure 14.** Measurement “M” taken in Perth Australia.

**Solar eclipse of August 10 1980**



**Figure 15.** Measurement “M” took place in Peru Red path shows the Moon moving south.

**Solar eclipse of July 22 1990**



**Figure 16.** 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 Sub-Solar point, and thus there was no upwards acceleration of Earth, hence no exposed DFA and no Allais Effect was confirmed (Figure 15) [5].

**1990, 22 July, measured in Finland**

Only a weak Allais Effect might have been measured in Finland. This is as expected (Figure 16) [5].

**1991, 11 July, measured in Mexico**

The Moon and the testing body were in the same acceleration frame of refer-

ence, hence no DFA was exposed, and no Allais Effect measured (**Figure 17**) [5].

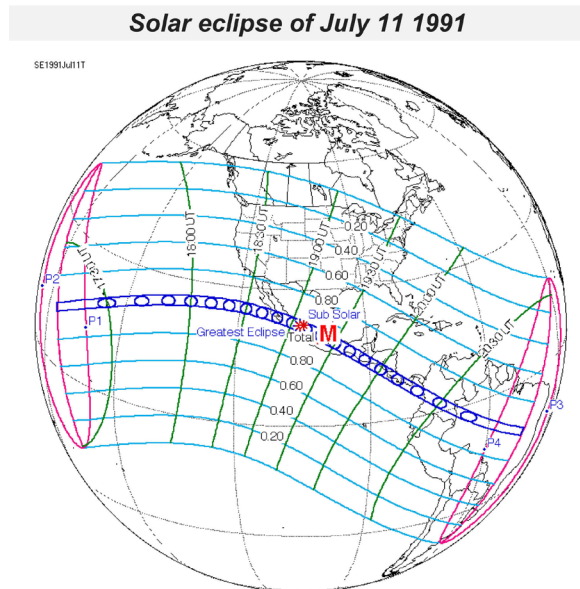
**1994, 10 May, measured in Canada**

Gravity measurements confirmed the Allais Effect, but the result was very weak. This is also as expected. The weak result is due to the bad DFA interaction axis. (**Figure 18**) [5].

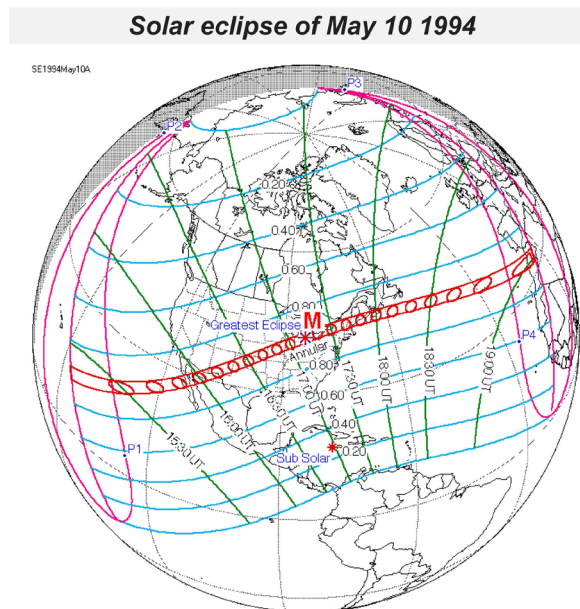
**1995, 10 October, measured in Northern India**

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 Sub Solar point, and DFA was therefore exposed (**Figure 19**) [5].

In the early morning of **24 October 1995**, a gravity measurement was taken

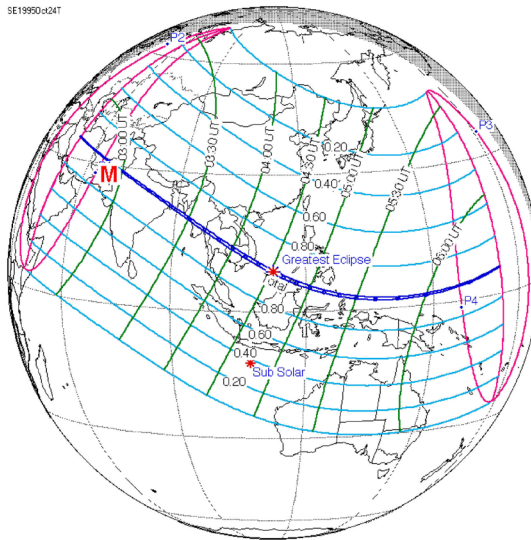


**Figure 17.** Measurement “M” took place in Mexico.



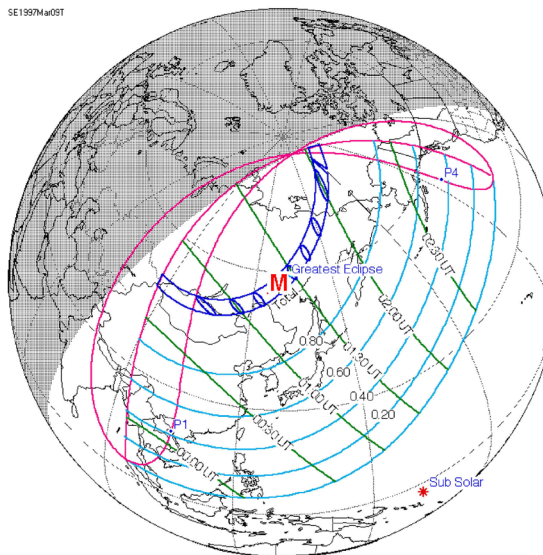
**Figure 18.** Measurement “M” took place in USA.

**Solar eclipse of October 24 1995**



**Figure 19.** Measurement “M” took place in N-India.

**Solar eclipse of March 9 1997**



**Figure 20.** Measurement “M” took place in N-China.

for oil exploration purposes in northern India when by chance the Allais Effect was measured ( $12 \mu\text{Gal}$ ). What we see here is that in the morning, northern India is brought just above the Sub-Solar point whereby a testing body (in Northern India) thereby immediately was exposed to DFA. Also notice that the DFA interaction axis was parallel to the DFA axis (see the red arrow). Both of these factors are perfect for measuring a gravitational anomaly connected to the Allais Effect (**Figure 21 & Figure 22**).

**1997, 9 March, measured in Northern China**

Similar Allais Effect measurements were taken in northern China, but this time only showing an anomaly at  $6 \mu\text{Gal}$ . The cause of the weaker result (com-

pared to North India) obviously is the different angle of the DFA interaction axis relative to the DFA vector (Figure 20) [5].

#### 1999, 11 August, measured in Austria & France

This eclipse was perfect to detect and measure the Allais Effect, but unfortunately not with gravimeters. Suddenly exposed DFA is required in order for the gravimeter to detect the Allais Effect (similar to what was seen in Northern India in 1995). If no sudden changes take place, it is very difficult to distinguish whether the Allais Effect was involved or not. The Allais Effect was confirmed by using pendulums by this eclipse. This result is as expected (Figure 23) [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 24) [5].

#### 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

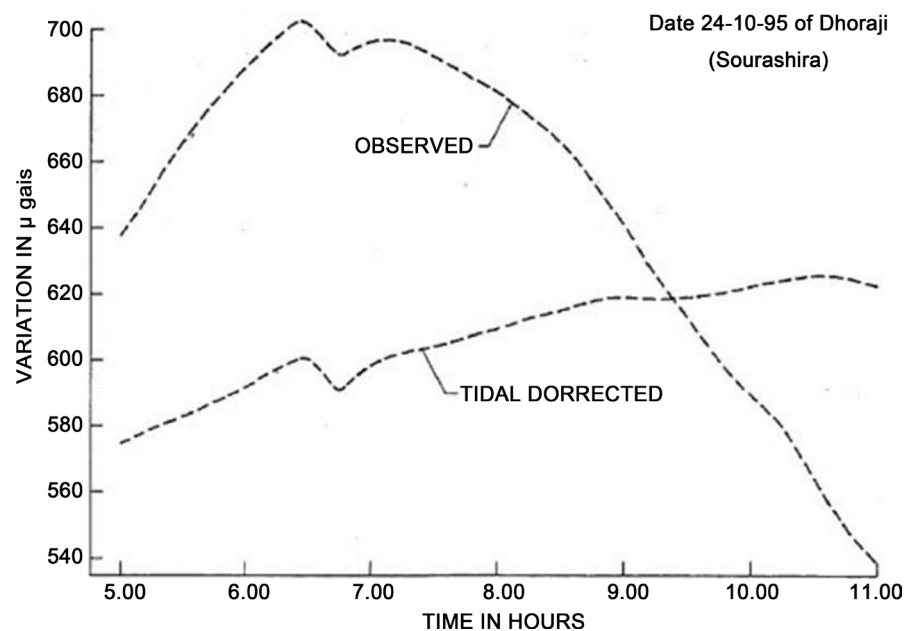
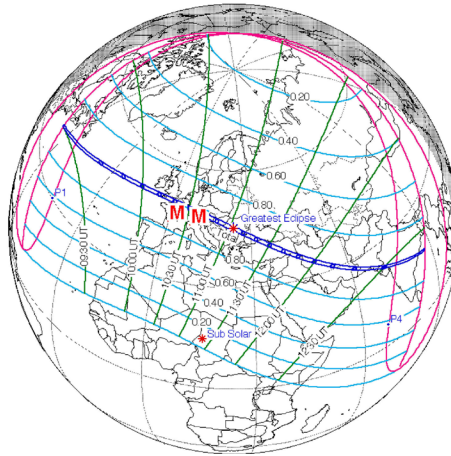


Figure 21. Acceleration due to gravity. The flat curve of the tidal force is filtered.



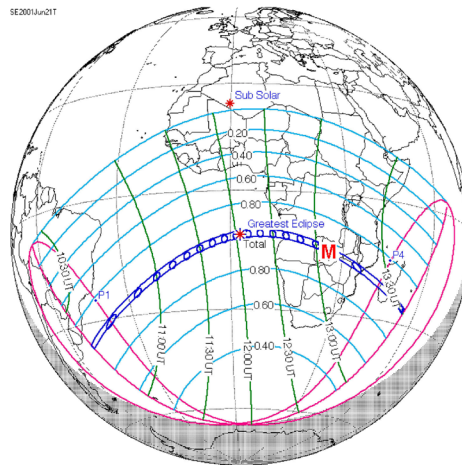
Figure 22. It is remarkable, but no longer mysterious, that the Allais effect was measured in the morning in Northern India.

**Solar eclipse of August 11 1999**



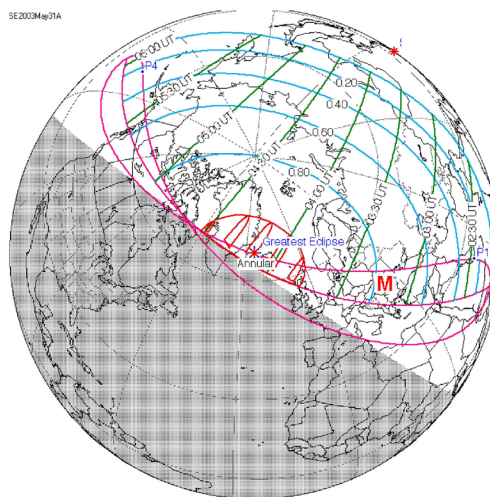
**Figure 23.** Measurement “M” and “M” Austria, France.

**Solar eclipse of June 21 2001**

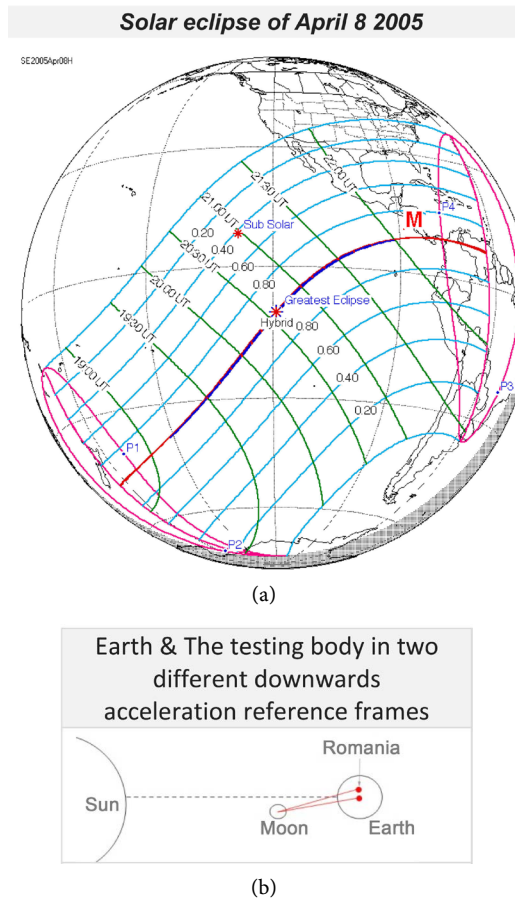


**Figure 24.** Measurement “M” took place in Zambia.

**Solar eclipse of May 31 2003**



**Figure 25.** Measurement “M” Romania.



**Figure 26.** (a) Measurement “M” Panama (and Romania); (b) The Moon accelerating the testing body & the Earth downwards.

place whereby DFA was exposed and Allais Effect was measured [5] (Figure 25).

#### 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 26(a)).

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 26(b)).

#### 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 27) [5].

#### 2006, 22 September, measured in Romania

The Earth was accelerating downwards due to the pull from the lower Moon where by 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 (Figure 28) [5].

### Solar eclipse of March 29 2006

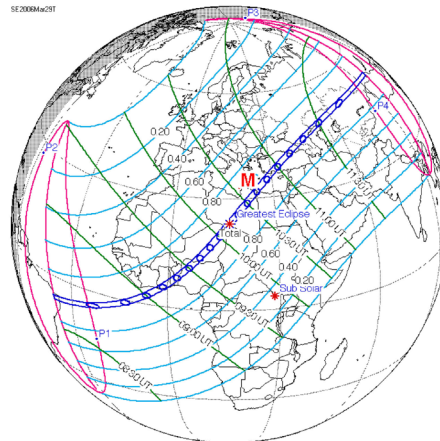


Figure 27. Measurement "M" took place in Turkey.

### Solar eclipse of September 22 2006

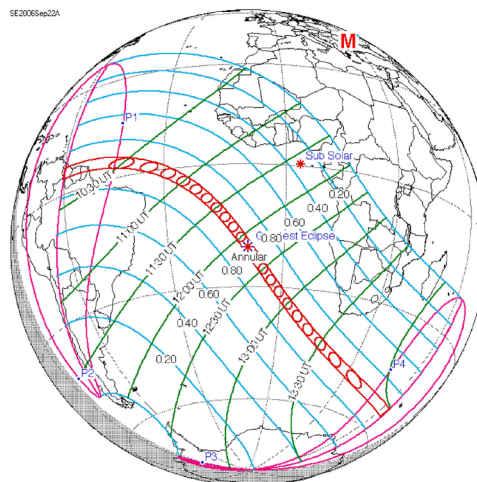


Figure 28. Measurement "M" took place in Romania.

#### 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 test body was too strongly effected 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 29 & Figure 30) [5].

#### 2009, 26 Jan, measured in Romania and Ukraine

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

A relatively much stronger downward acceleration was exerted on the test bo-



### Solar eclipse of August 1 2008

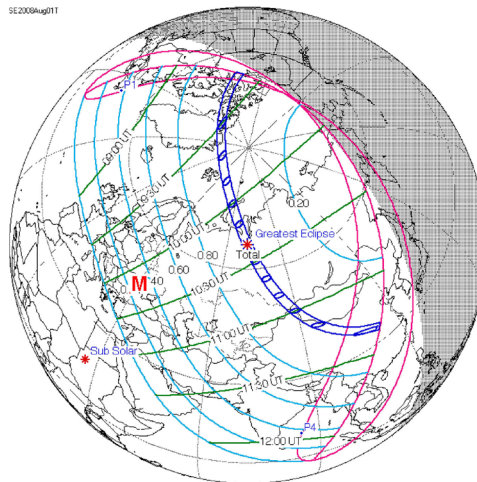


Figure 29. Measurement “M” Romania and Ukraine.

### Solar eclipse of August 1 2008

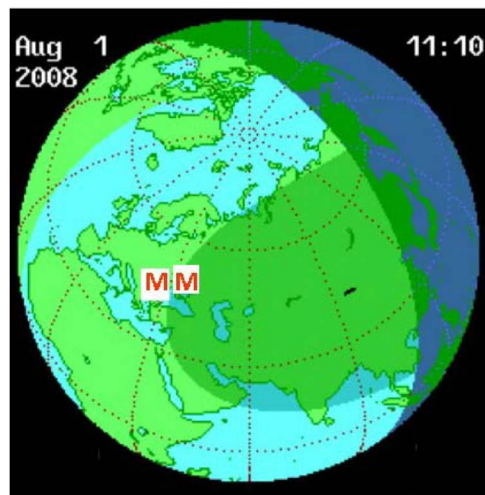


Figure 30. “M” and “M” Romania and Ukraine.

dies (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 31) [5].

#### 2009, 22 July, measured in China

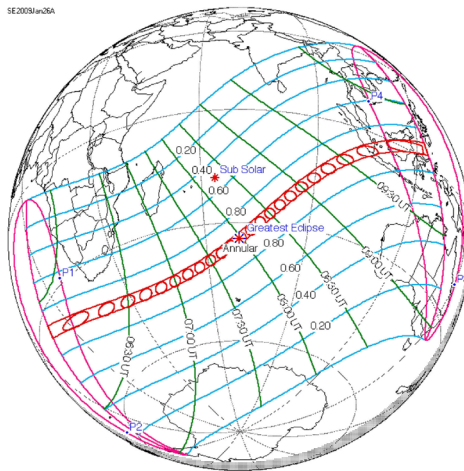
The Allais Effect was measured in China. The Allais Effect was confirmed. This is as expected.

The effect was relatively weak due to the fact that the Moon is not very much higher than the Sub-solar point (Figure 32) [5].

#### 2010, 11 July, measured in the USA

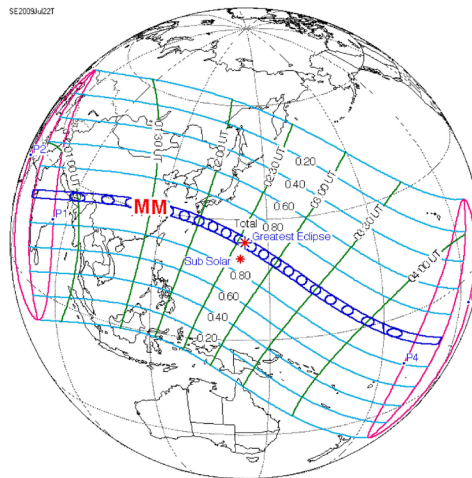
On that day, the DFA was not exposed anywhere on the planet, and no Allais Effect was confirmed (Figure 33) [5].

**Solar eclipse of January 26 2009**



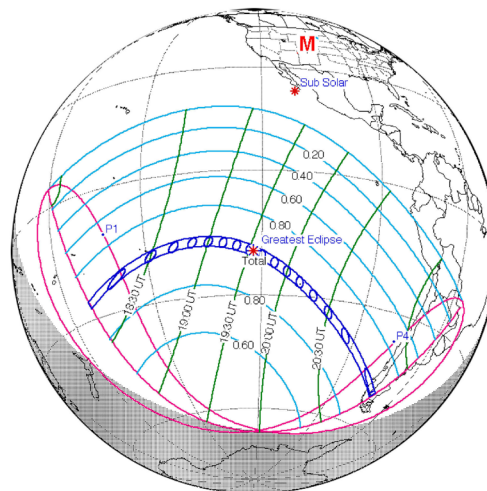
**Figure 31.** Measurement took place in Romania.

**Solar eclipse of July 22 2009**



**Figure 32.** Measurement “M” and “M” China.

**Solar eclipse of July 11 2010**



**Figure 33.** Measurement “M” took place in USA.

### 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 DFA 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 Sub-Solar 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 DFA (Figure 34) [5].

### 2017, 21 August (Figure 35 & Figure 36)

The coming solar eclipse has several advantages. 1) The DFA Interaction axis is almost completely parallel to the DFA axis. The moon is situated high enough on the northern hemisphere to exert large, upwards acceleration, and probably

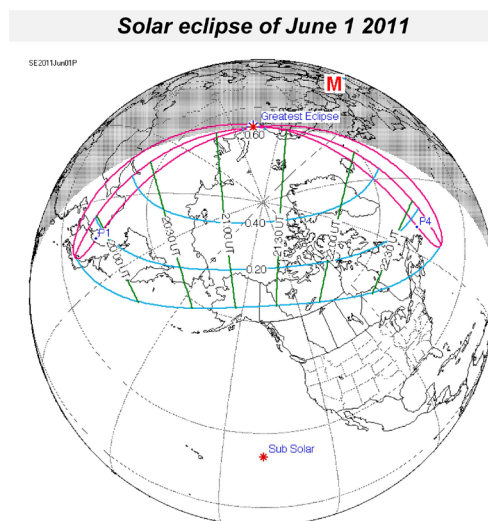


Figure 34. Measurement “M” took place in Romania.

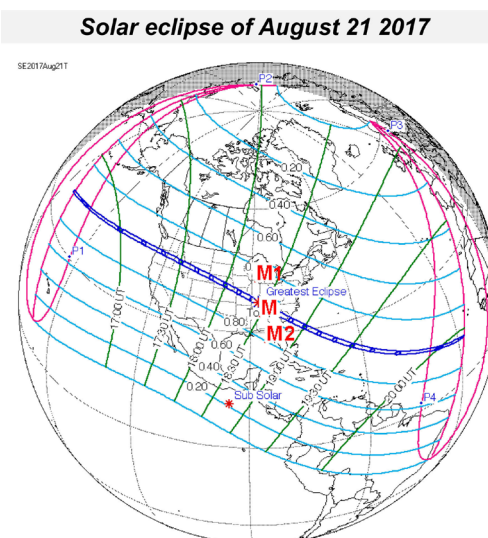
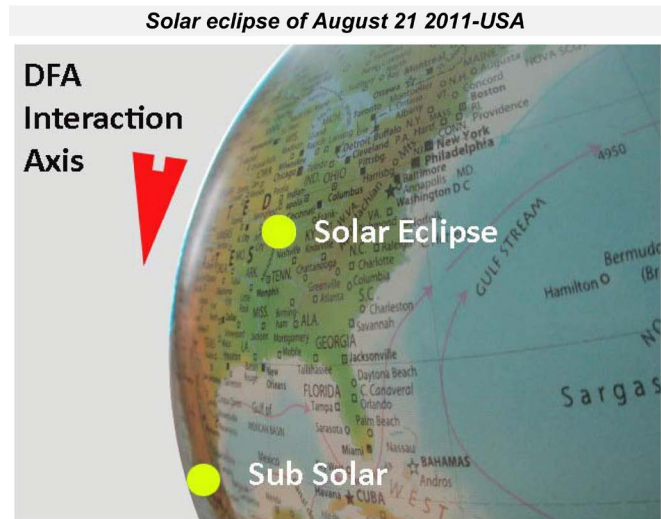


Figure 35. Measurement August 2017 “M” should be taken many different places.



**Figure 36.** USA 21 August 2017 A perfect opportunity to measure the Alias Effect.

also to expose the full potential of DFA. This will be one of the best, or most likely the best, solar eclipse to measure the Allais Effect in decades. The best place to measure is more or less right under the Moon. The further north or south from the solar eclipse that measurements take place, the weaker we must expect anomalies to be [1].

Due to the tilted rotation axis, it is mainly the rotation of the earth that brings a testing body to the best possible DFA exposed position. The best exposed DFA position is most of the time right under the Moon or near the Moon. The upwards or downwards motion of the Moon is important as well. Both these factors contribute to speeding or delaying the time when the Allais Effect can be measured.

On the day of the eclipse (the USA, August 2017), the Moon will move downwards, and at the same time, the test body will move slightly upwards due to the rotation and axis tilt of the Earth. This means that the exposed DFA will not suddenly vanish, and we should therefore not expect a very sudden change of the DFA exposure. Therefore, a gravimeter will not be the best device to measure the exposed DFA.

It is now easy to predict that measurements taken at position M1 and M2 must be expected to be significantly weaker than measurement taken at position M. But to really understand the Allais Effect measurement taken at many different places in northern and southern America will be important too—the 1 of August 2017. This is the only way.

## 5. Prediction & Challenge

In order to definitively confirm that an anisotropic acceleration is at stake, it is important that measurements are performed in much larger scale than previously and on the same day—especially by the coming solar eclipse August in 2017 in the United States.

Based on this theory, this solar eclipse is predicted to have the potential to re-

veal exceptional convincing results.

However it is also important that measurement is also taken at places where the theory predicts significantly weaker results. Even weak results, or no results, also contribute to ‘encircle’ and thereby understand the nature of the phenomena.

The Solar Eclipse on 1 August, 2017 (USA) is really a rare and excellent opportunity to demonstrate that the Allais Effect can no longer be ignored, but is in fact a possible completely new undiscovered aspect of astronomy that deserves the utmost attention in our time.

## 6. 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 then must reach speed  $c$ , then 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.

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