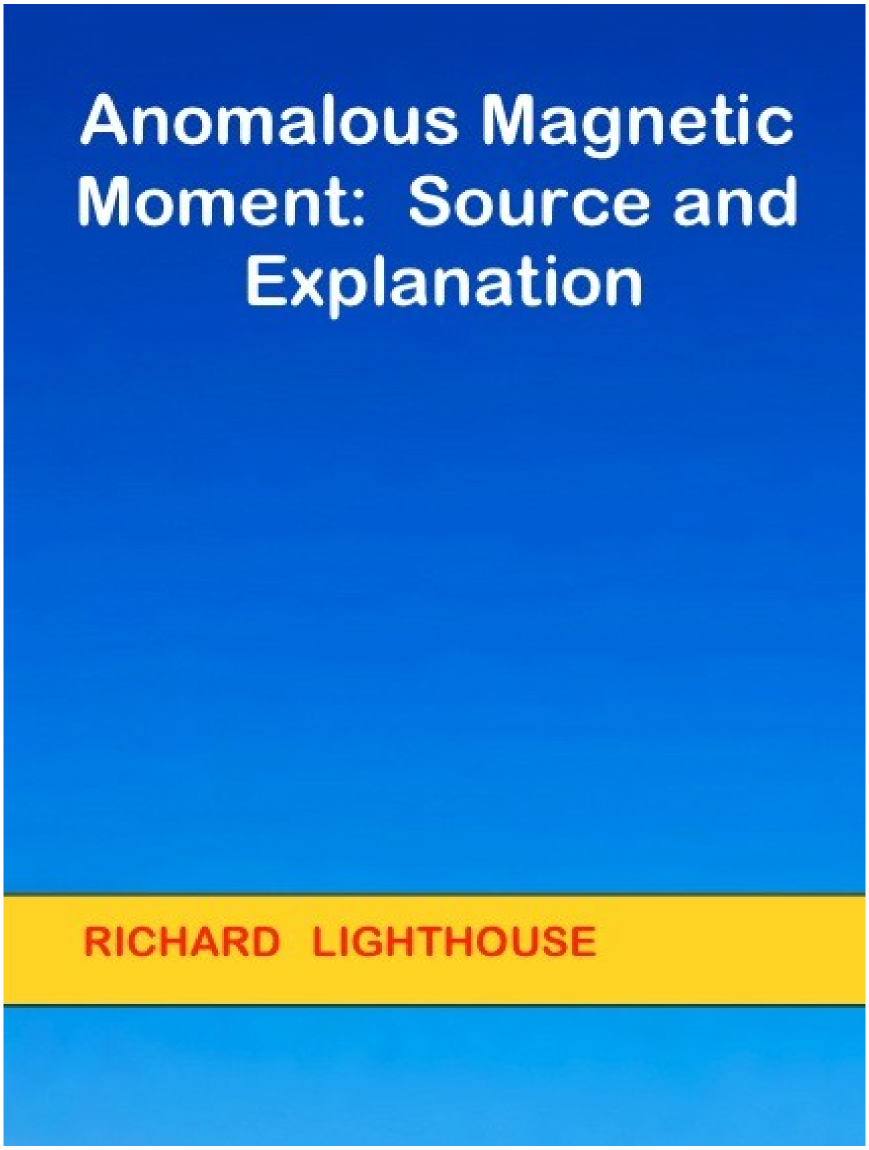

Anomalous Magnetic Moment: Source and Explanation

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Abstract

This paper explains the anomalous magnetic moment for all elementary particles and composite particles (such as the proton). The special case regarding the Muon anomaly is addressed. It also presents a summary of the issues in accurately measuring the magnetic dipole moment for elementary particles. The

explanation provided involves simple math and probabilities. It is not complex, such as Yang-Mills and related theories. In summary, there is no anomaly. The measurement of the magnetic moment is a time-averaged value for 16 different particles. Areas for further research are suggested.

Introduction

The magnetic dipole moment is generally defined as the measurement of the strength of a magnetic source. When discussing elem particles, it is generally used to describe the difference between an equation (Dirac) that calculates it and the experimentally measured value. It typically differs by a small fraction of one percent.

Readers are encouraged to review references [1], [2], and [3] first, as the following discussion will make more sense.

There are at least three problems with recent experimental measurements:

Problem 1.

Most of the data is time-averaged. It has not occurred to most researchers that our universe is blinking, and therefore any data sample is subject to the limitations of the time interval over which it is taken.

Problem 2.

In measuring the magnetic moment of an electron, it is assumed there is only one kind of electron. In fact, there are 16 different types of electrons.

Problem 3.

For a composite particle, the problem is magnified because you are dealing with 16 probabilities for each particle mass.

The reason that composite particles often have a large magnetic moment anomaly is because you are dealing with 16^n (where n is the number of individual particles in the composite particle.) In the case of a proton, it is electrically neutral, but displays a magnetic moment because, while each proton is made up of charged quarks and a neutron, the quarks and neutron each have 16 probabilities of occurrence. These probabilities are then invoked, each time the blinking universe completes a full cycle around the 4 quadrants. [2] This is about 1.039 trillion times each second for the blinking and about 1 billion times each second (1015 MHz) that the probabilities are invoked for a single particle.

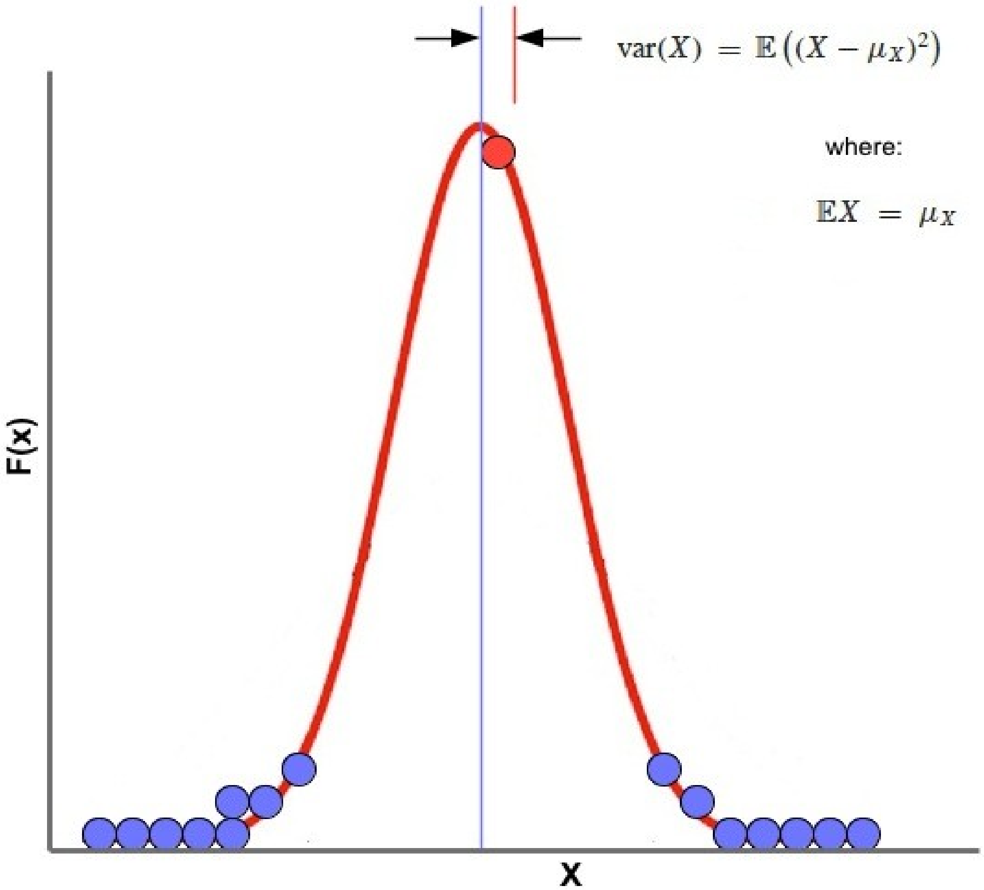

Figure 1. Electron Probability Curve (representative only). These 16 dots represent the 16 different probabilities for electrons. Showing the probability of appearance for each of the types. Note that the most common probable electron (red dot) appears far more often than any of the other types. This is typical for many of the elementary particles in the standard model.

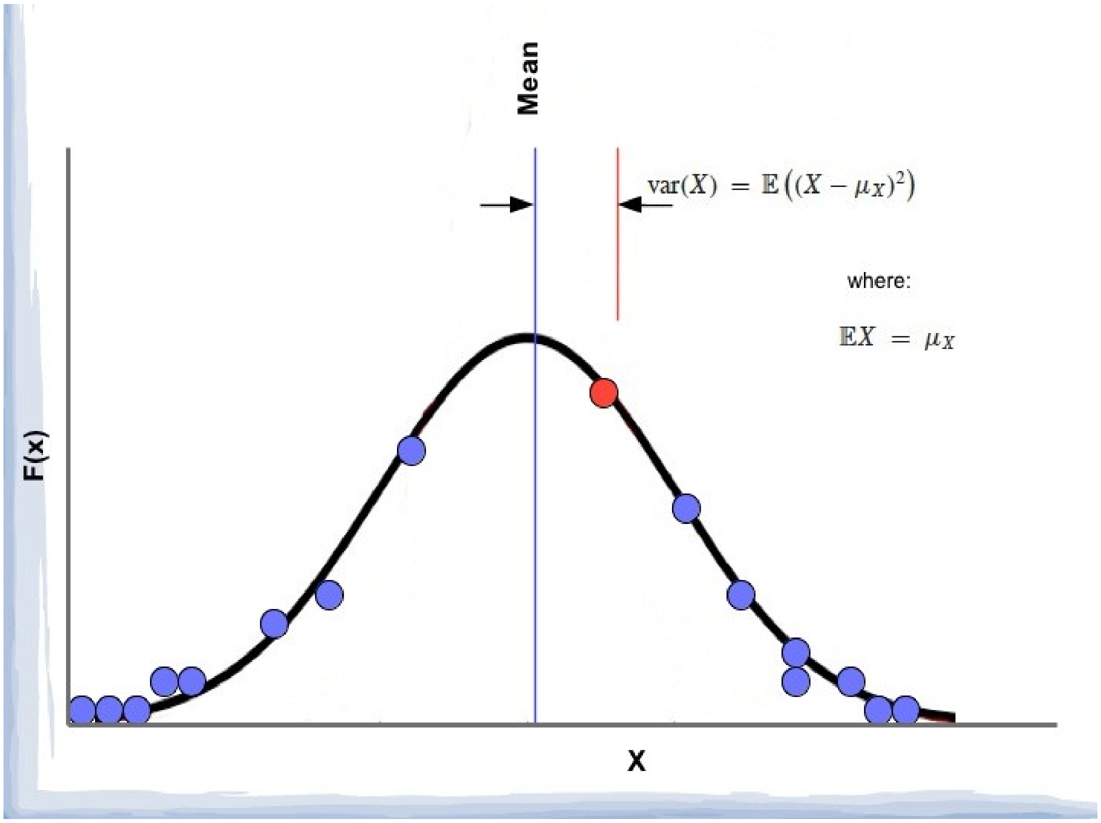

Figure 2. Muon Probability Curve (representative only). In this case, the red dot represents the most common type of Muon. Note that the alternate probabilities (blue dots) occur much more often here, which results in a large variance compared to typical particles. Keep in mind that each particle mass has 16 probability types.

The large variance expressed by the Muon probabilities, is proportional to the large anomalous magnetic moment. To calculate the precise value for the anomalous magnetic moment, it is necessary to first have all of the probabilities for each of the 16 particles. 4 of these 16 particles will not contribute significantly to the anomaly because they have the same charge as the most common type (but have 4 different spins).

Therefore, the anomalous magnetic moment is proportional to the variance of the most common particle type (red dot).

AMM = Var(X)

Possible Error Sources

The explanation here should provide for a high degree of accuracy for most elementary and composite particles, however, there may be other secondary effects as well – such as relativistic effects, and time-interval effects associated with the blinking frequency of the universe (Lighthouse Frequency).

Experimental Confirmation

Experimental confirmation is suggested by identifying individual mass particles that have more than one charge or spin. This may be already accessible in existing experimental data.

Further Research

A precise definition and equations are needed to explain all possible probabilities associated with the phenomena. This may first require more research to clearly identify all of the probabilities that are occurring. This occurrence is called the Probability of Appearance (PoA).

Conclusions

In summary, there is no anomaly. The measurement of the magnetic moment is a time-averaged value for 16 different particles. To properly measure the magnetic moment for a single particle – the data must be sampled much faster.

What we experience as the anomalous magnetic moment for an electron [6], is actually a composite of the probabilities for the various types of electrons. There are 16 types. If we can precisely define the Probability of Appearance (PoA) for each type, then we will be able to properly account for the anomaly, for any particle or composite particle.

For example, when an experiment is designed to deal with a single electron, it is experiencing a probability of appearance for an electron, each time the universe blinks and completes a full cycle around the 4 quadrants. [8] Because a full cycle in our universe takes about 1 billion times each second, each electron is replaced by a new probable electron at the same rate. In short, we are not dealing with one electron. We are dealing with the Probabilities of Appearance for an electron, which has 16 different types, involving 4 charges and 4 spins.

Readers are encouraged to read the associated technical papers at smashwords.com

This is a living document. The author reserves the right to make corrections and changes.

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APPENDIX

It is this author's opinion that all elementary particles are as unique and individualized as snowflakes. There does not exist two that are exactly alike. The research and math to confirm this will be coming soon.