

Also by Roger Ellman:

THE ORIGIN AND ITS MEANING

*ON THE ORIGIN OF THE UNIVERSE AND ITS MECHANICS,
THE MECHANISM AND ORIGIN OF INTELLIGENCE,
AND THE IMPLICATIONS FOR THE INDIVIDUAL AND SOCIETY*

ON THE NATURE OF MATTER

*THE ORIGIN OF THE UNIVERSE CREATED MATTER FUNDAMENTALLY WAVE IN
NATURE, NOT PARTICULATE*

THE PHILOSOPHIC PRINCIPLES OF RATIONAL BEING

*ANALYSIS AND UNDERSTANDING OF
REALITY, TRUTH, GOODNESS, JUSTICE, VIRTUE, BEAUTY, HAPPINESS, LOVE,
HUMAN NATURE, SOCIETY, GOVERNMENT, EDUCATION, DETERMINISM,
FREE WILL, AND DEATH*

GRAVITICS

THE PHYSICS OF THE BEHAVIOR AND CONTROL OF GRAVITATION

THE TROUBLE WITH THE HUBBLE LAW

*AN ALTERNATIVE TREATMENT OF REDSHIFTS IS EVIDENCED BY
FOUR INDEPENDENT OBSERVED COSMOLOGICAL EFFECTS.*

RESOLUTION OF THE "SPOOKY" PROBLEMS OF QUANTUM MECHANICS

THE WAVE NATURE OF PARTICLES AND LIGHT RESOLVES EINSTEIN'S
"SPOOKY" ENTANGLEMENT PROBLEM AND THE "WEIRDNESS" OF QUANTUM
MECHANICS

HOW TO TRAVEL TO AND EXPLORE MARS OR ALPHA CENTAURI B

USE OF FUEL IS IMPRACTICAL FOR SPACE EXPLORATION. THE ONLY FUEL-FREE
ACCELERATION FOR SPACE EXPLORATION IS BY CONTROLLED GRAVITATION, AND
THAT IS THE ONLY MEANS FOR A FLYING VEHICLE TO EXPLORE A DISTANT PLANET
AND THE ONLY MEANS OF TRAVEL TO IT.

PRIME OBJECTIVE TIME, PRIME OBJECTIVE SPACE

EINSTEIN INSISTED ON TWO UNIVERSAL PRINCIPLES:

1 – DENIAL OF A PRIME FRAME OF REFERENCE

2 - AND LIKEWISE DENIAL OF PRIMARY TIME

Neither of those denying principles is correct.

It is here shown that there is a prime frame of reference, objective space.

And, it is here shown that there is one grand overall flow of time, objective time.

Correcting those denials removes their adverse affects on Science and on Society

THOUGHTS IN REFLECTIONS ON LIFE

POETRY AND SCULPTURE

HOW THE BRAIN PRODUCES THE MIND AND CONSCIOUSNESS

IS IT POSSIBLE FOR THE BRAIN TO UNDERSTAND ITSELF,
TO EXPLAIN CONSCIOUSNESS ?

YES.



$$F = G \cdot \frac{M \cdot m}{d^2}$$

RESOLUTION OF THE PROBLEMS OF GRAVITATION

On October 9-10, 2014, several dozen scientists from around the world gathered for a meeting called by NIST at The National Institute of Standards and Technology to consider the problem of *Newton's Gravitation Constant, Big G*.

That problem is an unacceptable range of divergent *Big G* measured values and the lack of precision in the value of *Big G* as compared to the other fundamental constants.

It is now over five years since that October meeting and there has been no progress in resolving the problem.

**The problem is here resolved and
Big G united with the rest of physics.**

ROGER ELLMAN

Cataloging Data

Ellman, Roger (1932-)

Resolution of the Problems of Gravitation

Solves the Big G problem and unites Big G with the rest of physics

RESOLUTION OF THE PROBLEMS OF GRAVITATION

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The-Origin Foundation, Inc. is a non-profit organization founded to foster independent scientific, mathematical, and philosophical research.

The author of the present work, Roger Ellman is the General Director of the foundation.

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The Library of Alexandria, Egypt
The Russian Academy of Natural Sciences, St Petersburg
The Hungarian Academy of Sciences, Budapest
A Science Conference in Shang Hai, China

He is author of ten books in addition to the present “Resolution of the Problems of Gravitation”.

His education includes graduate studies at Stanford University after graduating from West Point, the United States Military Academy.

PREFACE

On October 9-10, 2014, several dozen scientists from around the world gathered for a meeting called by The National Institute of Standards and Technology [NIST] to consider the problem of *Big G*, that problem being an unacceptable range of divergent *Big G* measured values and the lack of precision in the value of *Big G* as compared to the other fundamental constants.

A result of that meeting and problem was the calling per Program Solicitation NSF 16-520 for an “NSF Ideas Laboratory at NIST: Measuring Big G Challenge” July 18 - 22, 2016.

It is now over five years since that October meeting and over three years since the “Ideas Lab”. Since both of those there has been no progress in resolving the *Big G* problem. The CODATA [Committee on Data for Science and Technology] reported values for the fundamental constants states:

“The latter [i.e. G] data are treated separately in CODATA adjustments because there is no known relationship between G and any other constant, and because the G data are independent of all other input data.”

A submitted “Ideas Lab” proposal, a comprehensive solution to the problem in response to Program Solicitation NSF 16-520, was consistent with the stated “Ideas Lab” goal: “A primary goal of the Ideas Lab is to bring new concepts and techniques from outside into an existing field to solve a long standing problem.” Nevertheless that submitted proposal was not accepted and was essentially ignored.

That proposal offered three solutions to the entire *Big G* problem:

- 1 – Identification and resolution of the cause of the problems in measuring *Big G*, and
- 2 – Successful development of the connection of “*Big G*” to the rest of physics.
- 3 – A precise value of “*Big G*” by calculation from other fundamental physical constants.

This book presents that proposal, and in addition offers:

- 4 – Experimental proof of the validity of the new value of *Big G* calculated from its expression in terms of other independent fundamental constants.

