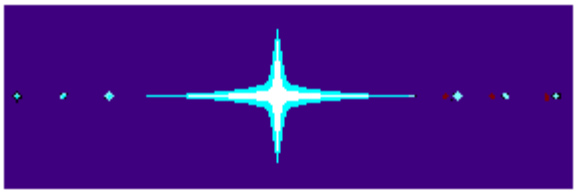

$$u(t)=U_C\cdot[1-\cos(2\pi ft)]\cdot\varepsilon^{-t/\tau}$$

ON THE NATURE OF MATTER

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

THE ORIGIN OF MATTER: ITS CAUSE;
THE STRUCTURE OF MATTER: ITS FORM;
MATTER'S INTERACTIONS: COULOMB, AMPERE, NEWTON,
MATTER WAVES, ATOMIC ORBITAL ELECTRONS,
GRAVITATION;
MATTER AND ATOMS;
APPLICATIONS

ROGER ELLMAN

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

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He is author of three books in addition to the present "On the Nature of Matter".

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PREFACE

In order to correctly understand the nature of matter it is necessary to consider all of the applicable sources of information and data. There are two such sources:

- The behavior of matter in its various encountered circumstances, and
- The origin of matter – how and from what it came to be.

The behavior of matter has been thoroughly investigated over the years and is codified in what we may refer to as 20th Century physics. That is the starting point of this present work, the various "Laws", "particles", "forces" and so forth that are the current generally accepted understandings of how the material world functions physically.

Until the present the origin of matter, its source, has not been addressed and that omission has resulted in a major error in the understanding of the nature of matter – the incorrect solution to the problem of the wave nature of matter versus its particle nature.

In the history of the physics of particles their wave aspect appeared significantly after their particle aspects had been well developed. Furthermore, although the wavelength aspect of matter waves became readily developed and experimentally confirmed the frequency aspect of matter waves could not then be successfully treated.

The late appearance of matter waves and the failure to treat their frequency resulted in the dominant success and acceptance of the general particle nature of matter.

That success has been so dominant that particle solutions to new phenomena are consistently proposed and the designation of new particles with names ending in "on", an imitating of protons, electrons, and neutrons, has become frequent.

It is unfortunate that a number of problems with current physics theory and a number of new avenues for physics investigation have been ignored. For example:

- Matter waves.
- Why are the stable atomic electron orbits the only stable ones ?
- How does one charge exert a force on another distant charge ? By electric "field" ? That is merely an assignment of a vector [a magnitude and direction] to each point in a subset of space without a supporting mechanism or cause.
- The same for the magnetic "field".
- How do the Lorentz Contractions occur since they are actual changes not mere observational differences ?
- What enforces the orbital electron structure as defined in terms of four "quantum numbers" n, l, m_l, and m_s.
- *etc.*

The present work resolves all of these issues and, making use of both of the above named applicable sources and of the developing of a solution to the matter wave frequency problem, presents, describes and advocates that all matter is wave in nature, oscillatory in nature.