Franc Rozman

Electromagnetic Theory of Matter

First Part of the Trilogy: Unified Electromagnetic Theory of Matter and Light

"Make me to understand the way of thy precepts: so shall I talk of thy wondrous works." *Psalm 119:27*

Table of Contents

This book is the first part of the trilogy *Unified Electromagnetic Theory of Matter and Light*. It develops a unified theoretical model in which stable toroidal electromagnetic structures form the fundamental building blocks of matter. The discussion begins with the organization and stability of electromagnetic fields, proceeds to the formation of the electron and the electromagnetic origin of mass and gravity, and finally extends the same principles to the continuous formation and disappearance of matter throughout the evolution of the universe. The five interconnected articles progressively develop this model, from its fundamental electromagnetic structure to its broader physical and cosmological implications.

Part A1 — Toroidal Electromagnetic Structure Page: 7

This article introduces the toroidal organization of electromagnetic fields as the fundamental structural basis of matter. It examines the spatial distribution of electric and magnetic fields, their energy contributions, and the conditions under which a localized electromagnetic structure can remain stable. The resulting model provides the foundation for the subsequent articles.

Part A2 — Merging and Stability of Electromagnetic Toroidal Structures Page: 37

This article explores how electromagnetic toruses can merge into larger, more energetic structures. It examines energy redistribution, geometric expansion, radiation losses, and the conditions governing stability. The merging process provides a mechanism for the gradual growth and evolution of electromagnetic structures toward more stable configurations.

Part A3 – The Electromagnetic Torus as a Model of the Electron. Page: 75

This article develops a model of the electron as a stable electromagnetic torus containing coupled standing-wave modes. It examines the resonance between electromagnetic fields and internal motion, the conditions for structural saturation, and the resulting stability of the electron. The electron is presented as a fundamental, self-organized electromagnetic structure.

Part A4 — Electromagnetic Origin of Mass and Gravity Page: 123

This article investigates the origin of inertial mass and gravitational interaction through two complementary scalar energy fields associated with electromagnetic structures. It relates inertia to the total absolute field-energy contributions and interprets gravitational attraction as the result of overlapping energy distributions. The model connects the internal structure of matter with its macroscopic gravitational effects.

Part A5 — The Formation of Matter - An Alternative to the Big Bang Page: 155

This article extends the electromagnetic model to the formation and disappearance of matter throughout the evolution of the universe. It describes the emergence of elementary electromagnetic structures, their progressive merging into stable particles, and the associated release of radiation. The proposed mechanism offers an alternative cosmological framework in which matter formation is a continuous physical process rather than a single primordial event.

November 2026

Colophon

Title: Electromagnetic Theory of Matter

Author: Franc Rozman fr.rozman@gmail.com

Published by: Franc Rozman, Brezje pri Tržiču 59, 4290 Tržič, SI - Slovenia

Design: Alenka Klemenc

Language review: Majda Rozman

First edition: 100 copies

Publication date: November 2026

CIP - Kataložni zapis o publikaciji
Narodna in univerzitetna knjižnica, Ljubljana

53

ROZMAN, Franc, 1949-
Electromagnetic theory of matter / Franc Rozman. - Tržič : [samozal.] F. Rozman, 2026

ISBN 978-961-97043-1-8
COBISS.SI-ID 302816259