

The Nature of Gravitational Collapse

CONTENTS

Preface	7
1. The Amazing Photon	11
Background to understanding gravitational collapse.....	11
Background to understanding the link between the photon and gravity	14
Background to resolving the mystery of gravitational collapse	14
The Amazing Photon – The fundamental particle of energy...	16
Photon confinement and the property of mass.....	21
Linking the photon to the space medium: Excitation	26
Crucial aspect of photon propagation: Destructive excitation	31
2. Gravitation Reduction	34
Aether in motion	34
Determining the speed of aether flow	37
The Dragon of Gravity	41
3. Gravitational Collapse and the Superneutron Star	44
Collapse: The Schwarzschild radius perspective	44
The Superneutron Star	49
Superneutron Star: Mass and radius	54
Characteristic values for the Superneutron Star.....	60
4. New Process Dispels Old Misconceptions	63
Process of Terminal Annihilation.....	64
Black Holes versus Black Stars	66
How physicists were led to the belief in basic black holes.....	67
A summary of paradigms: Black Hole versus Superneutron Star.....	70
New physics, new understanding.....	71
5. Gravitational Collapse Involving Close Binary Systems	76
Gravitational collapse involving a stellar binary	76
Gravitational collapse involving a neutron star in a close binary	83
6. Gravitational Collapse Involving a Single Rotating Star	90
Properties of the candidate rotating star	90
Rotation	94
Core collapse.....	98
How the rotational momentum is accommodated.....	102

How to travel faster than the speed of light —without breaking Einstein’s rule	107
7. Final Collapse	114
Maximum density neutron star	114
The negation of the centrifugal force	121
Conservation laws	128
8. Properties and Noteworthy Features of Superneutron Stars	135
Holes in an inescapable barrier	135
Emission jets	140
Energy emission mechanism	144
Revolutionary astrophysics	148
How jets dissipate rotational energy	151
Once a SnS always a SnS.....	153
9. More Properties and the Fate of Superneutron Stars	162
A comparison of properties	162
One plus one equals one	172
Fate of Superneutron Stars	173
10. Supermassive Black Regions	176
Do all galaxies have a central supermass?	176
Why stationary stellar systems have no Supermassive Black Regions.....	180
Rotating Black Regions	182
More on the cause of spiral orbits (A key property of the space medium).....	187
More on the cause of spiral orbits (Dragging of the space medium).....	194
Historical blunder	204
Super Regions, Super Beams, Super Jets	209
11. Gravitational Collapse on the Cosmic Scale	221
Indispensable center of gravity	222
Universe ruled by gravity.....	223
Cosmic structure	224
Cosmic-scale gravity cells	228
Cosmic-scale perpetual gravitational collapse.....	232
12. Incontrovertible Proof	235
From photon to gravity to cosmos	236
Sound and sensible theory	240
Evidence, prediction, explanation (Theory verification)	242
Extraordinary pattern of galaxies	245

Basic geometry explanation	248
More confirming evidence: Right-angled walls of galaxies ...	250
13. Gravity and Cosmology Nexus	256
Hierarchy of theory status and the exclusivity of a validated theory	256
Theory evaluation: Some additional points	258
Expanding the domain of physics (Physics versus Metaphysics).....	260
The miraculous aether	266
Historic failures in the nexus between gravity and cosmology.....	271
Glossary	275
Appendices	283
Appendix A: Aether flow surrounding a non-rotating-mass.	283
Appendix B: Schwarzschild radius.....	283
Appendix C: Basic critical-state neutron star: Mass and Radius.....	284
Appendix D: Simulation to determine the characteristics of the Superneutron Star.....	285
Appendix E: Calculation of angular momentum of a binary system.....	289
Appendix F: Stellar core mass (given only its density function).....	292
Appendix G: Stellar mantle mass (given only its density function).....	292
Appendix H: Moment of Inertia of pre-collapsed stellar core (given its density function)	293
Appendix J: Determining the dimensions and mass of a critical-state ellipsoidal neutron star	294
Appendix K: Angular momentum ratio and the importance of location within the structure	297
Appendix L: Superneutron Star spin: hypothetical extreme example	298
Appendix M: Proof of the dynamic property of the space medium (Proof that aether is self-dissipative).....	298
Index.....	301

The nearer an investigation approaches to simple natures the easier and plainer will everything become. –Francis Bacon