

Atomic Bonds & Gravity

Presented by

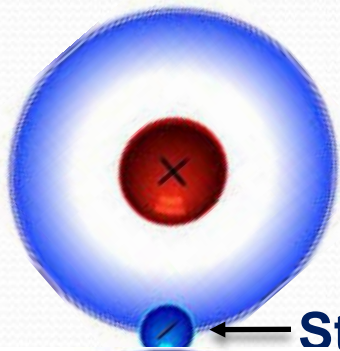
*Shailesh Kadakia, Founder
Matrix Writers & Publishers LLC
and*

*Raymond Harjo, Founder
One Energy, San Diego CA
Email: Shailesh.mwp@gmail.com
Web: www.skylativity.com
Phone; (760) 421-3958*

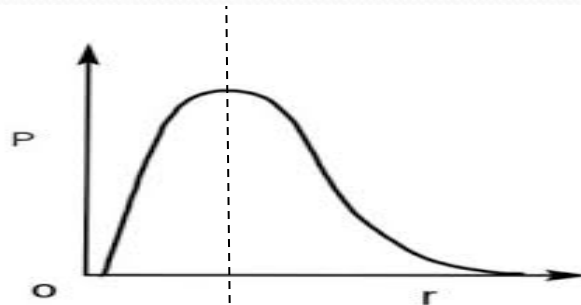


Molecules: Chemistry of Bonds

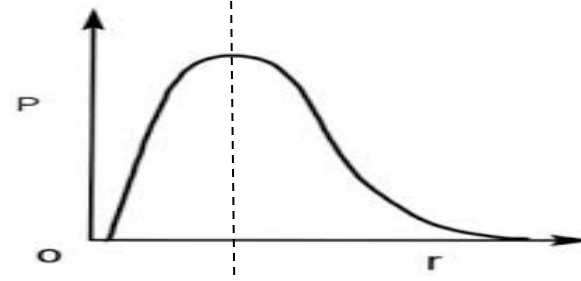
- Why only two atoms form stable hydrogen molecule?
- Physics of Hydrogen molecule formed by bonding 2 Hydrogen atoms
- 2 theories: a. Valence bond method, wavefunction 100% covalent
- b. Molecular orbital approach, wavefunction 50% covalent & 50% ionic
- Ionic structures: H^+H^- & H^-H^+ net $q = 0$ Covalent structure: H_2 neutral
- Hydrogen molecule, covalent bonding: Electron 1s shared by 2 atoms.
- Only 2 atoms can share an electron in 1s state



Strong bond with nucleus



Probability Peaks at a distance Bohr's radius a_0 .

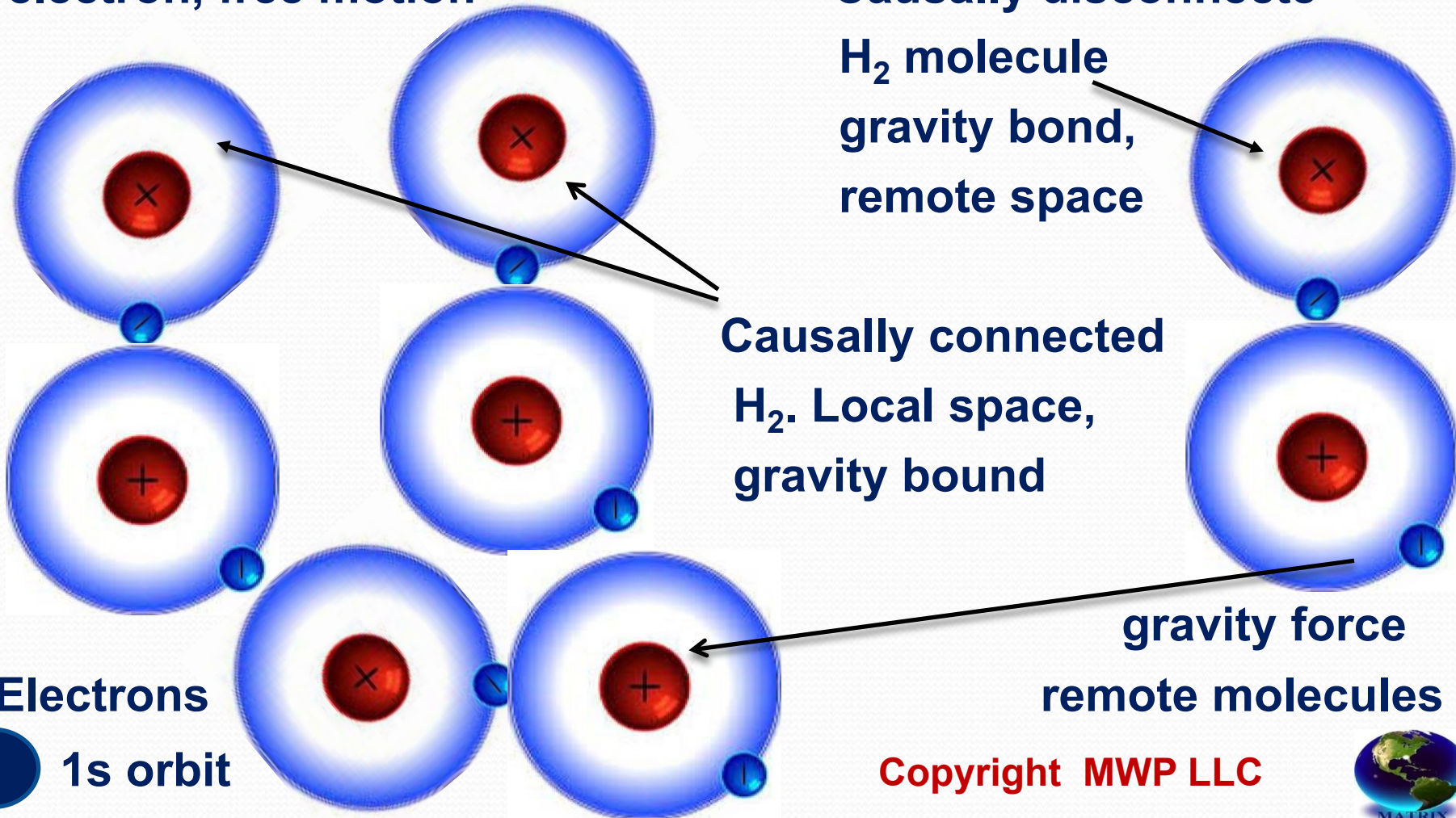


Formation of H_2 molecule leaves field lines of another electron unbound (free from proton).



Gravity & Composition, Objects/Particles

- Gravity manifested by Composite Objects/Particles: Isolated
- quantum particles do not experience gravity.
- Molecules bonded by gravitational weak field lines places
- electron, free motion

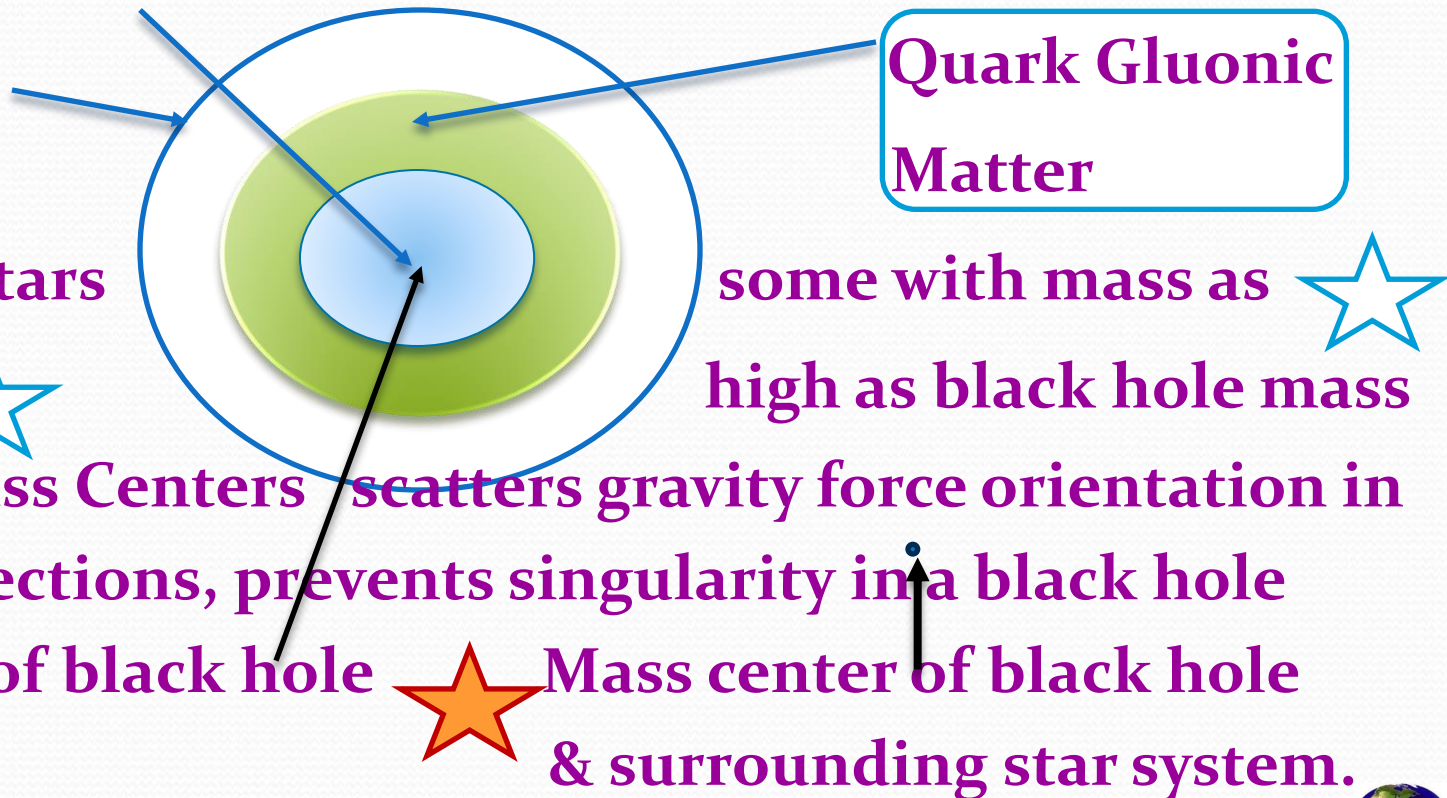


Revisited 3-Bodies Problem

- ❑ Singularity in Black holes bounded: Gauss's Law of Gravitation
- ❑ Gravity forces among two or more objects inhibits Singularity
- ❑ Several Centers of Gravity in System of Composite Objects
- ❑ Sagittarius A* Black Hole at the Center of Milky Way Galaxy

- ❑ Event Horizon Trapped Baryonic Matter Singularity Region

- ❑ Super High Gravity
- ❑ Billions of Stars
- ❑ some with mass as high as black hole mass
- ❑ Different Mass Centers scatters gravity force orientation in different directions, prevents singularity in a black hole
- ❑ Mass center of black hole alone
- ❑ Mass center of black hole & surrounding star system.



Black hole/Electron G-Field/E-Field Variations

Black Hole (BH): Composite Celestial Object, R- BH Radius

a – critical radius Gauss' Law

Sea of quarks

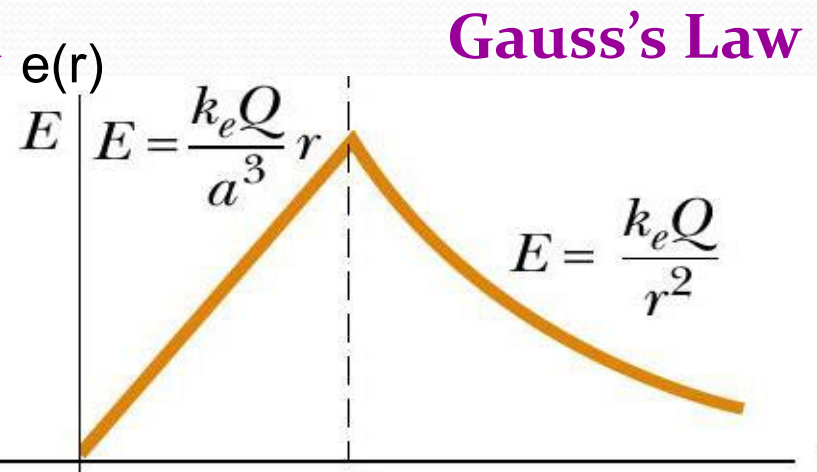
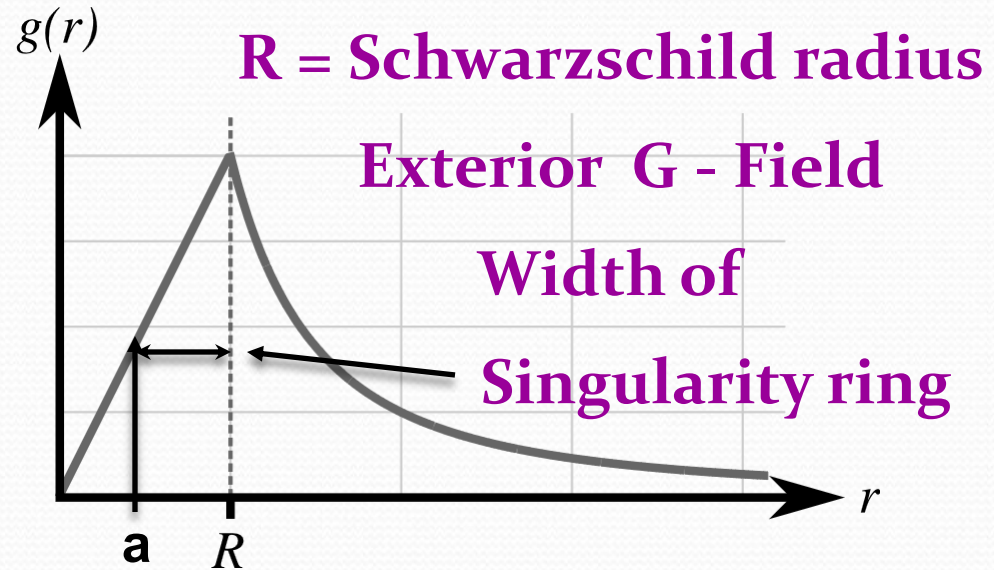
Event horizon distance R

Gravity field $g(r)$ vs. distance r from the center of BH in lys.

Electron: E-field similar G-field

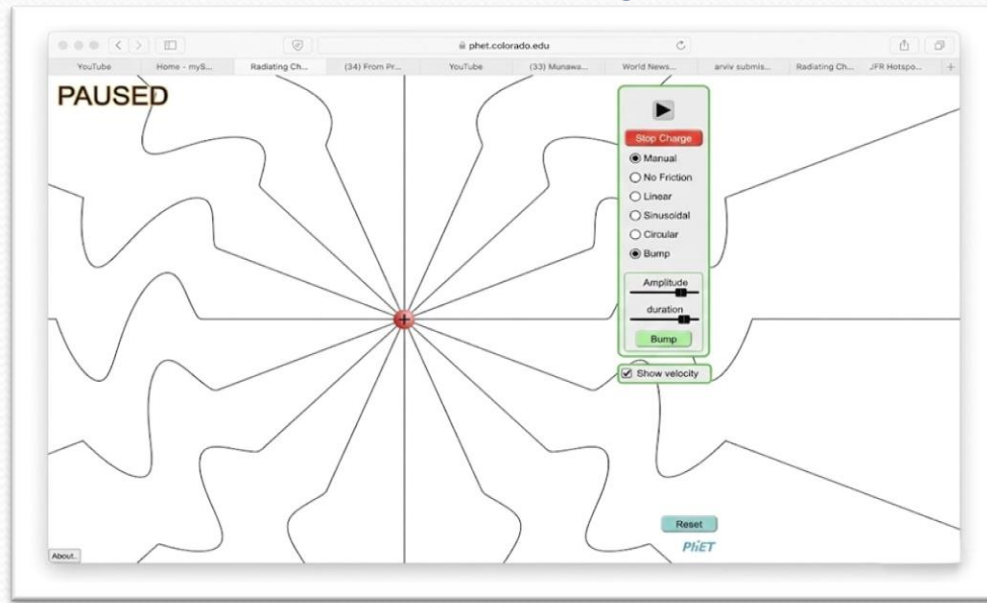
Electron radius a

Electric field $e(r)$ vs. distance



Role of Gravity: Electron Stability

- ❑ Nano-scope level gravity: Evaluate electron mass and radius.
- ❑ Electron stabilized: Influence of Coulomb radial force field &
- ❑ E-field caused by sinusoidal excitation of electron spin motion.
- ❑ We propose: Gravity reaction transverse field caused by axial
- ❑ electron rotation, an art-effect of spin moment (motion).
- ❑ [A gap in M Karim's White paper "Auto-stabilized Electron 2.0"]
- ❑ Electron spin motion occurs, 2-body mass distribution problem



Cross-section of Field Pattern from an Electron Charge



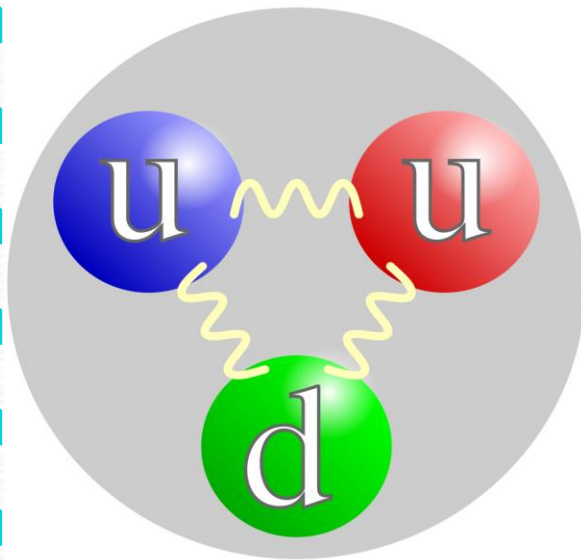
Revised Physics of Gravity

- ❑ Gravity reduced form of Coulomb forces among charges.
- ❑ Gravity force: Conveyed through photons of low frequency
- ❑ Photon and Graviton, quantum wave function of similar type.
- ❑ Gravity Force: Proportional to number of molecules.
- ❑ Force of gravity $F_g = G m M / r^2$, Newton's laws of gravitation
- ❑ Possibility:
- ❑ Gravity Force = Strong Coulomb Force – Strong Color force
- ❑ Contradicting Postulates of Einstein's GTR
- ❑ 1. Gravity is not a Force: Celestial object motion, Geodesics
- ❑ 2. Gravity introduces curvature in spacetime & bends it
- ❑ Basic Principle: Space or any matter can not be distorted
- ❑ without action of force or stress causing entity.
- ❑ Conclusion: Fabric of space can not be bent by gravity.
- ❑ Example: Motion of bodies within volume of solid sphere.

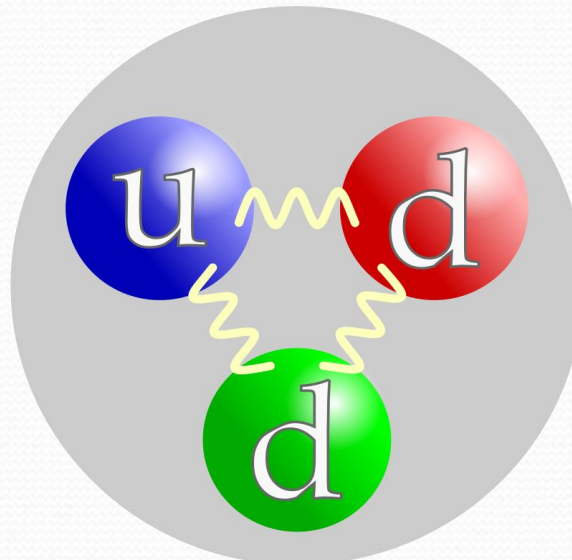


Quarks & Color Force

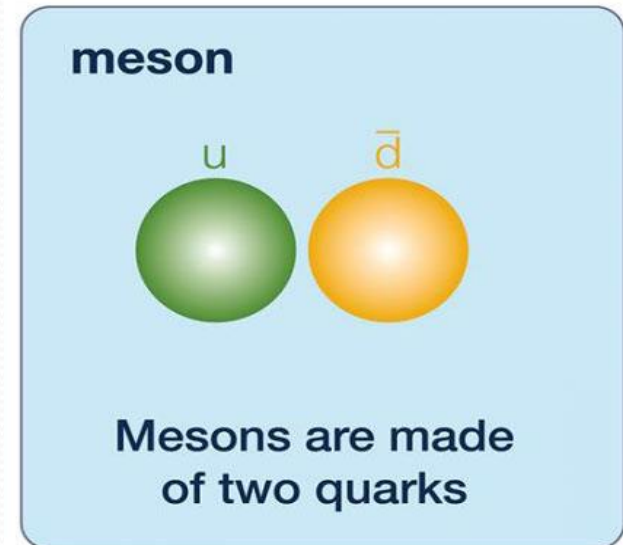
- ❑ Quarks: 6 Flavors each in 3 Colors and 3 Anti-Colors
- ❑ Postulate: Spin direction gives Color charge/force
- ❑ Spin directions 120° displacement results in 3-colors
- ❑ Clockwise/Counter Clockwise leads to pairs Quark/Anti-Quark
- ❑ 120° Spin Axis, formation of Baryons, 3-quark Structure
- ❑ CW & CCW 0° , formation of 2-quark Meson composite particles



Proton



Neutron

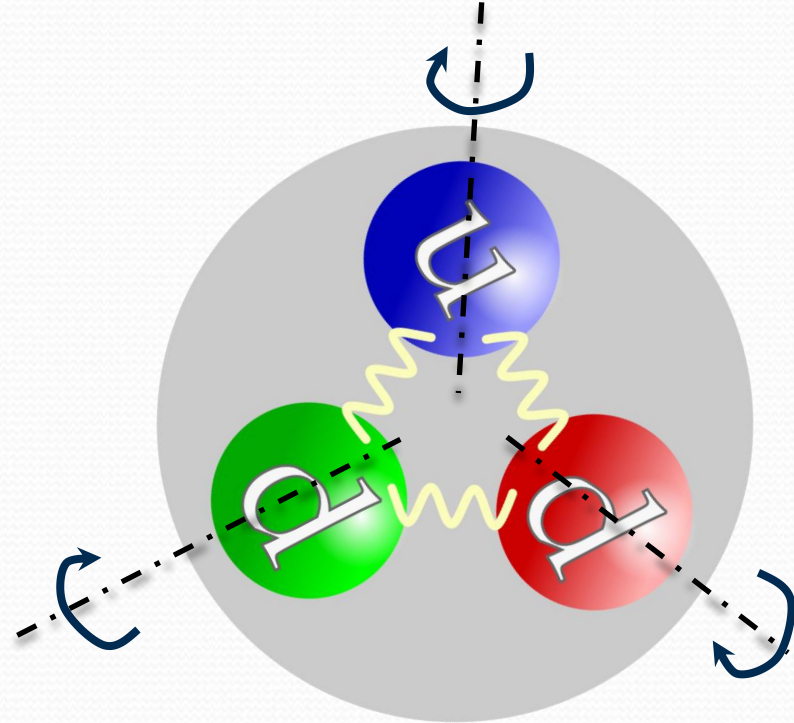
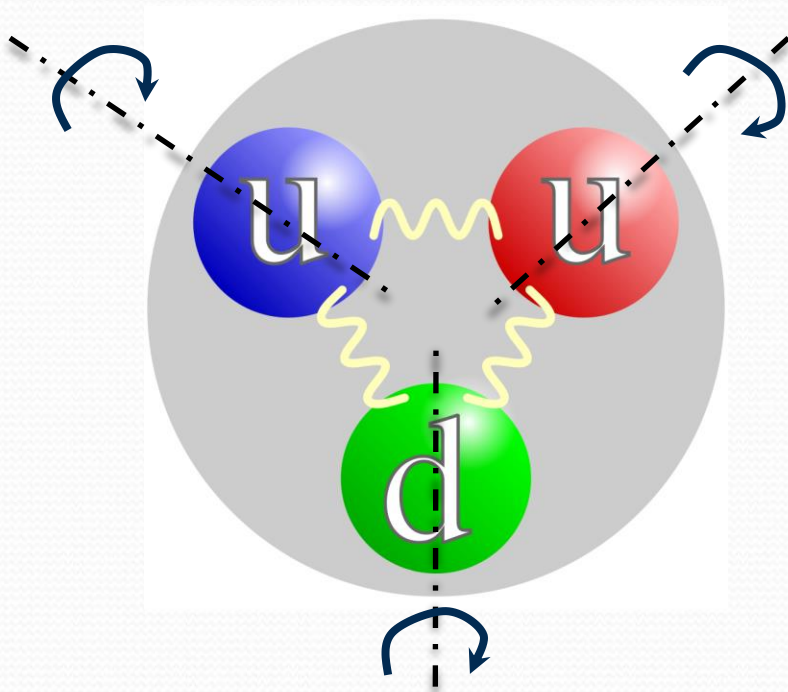


Shown here is a pion, made of an up and a down quark.

Stability & Lifetime of Baryons

- Proton and neutron with axis of rotation at 120° forms stable baryon proton. However, neutron less stable [charge neutral]

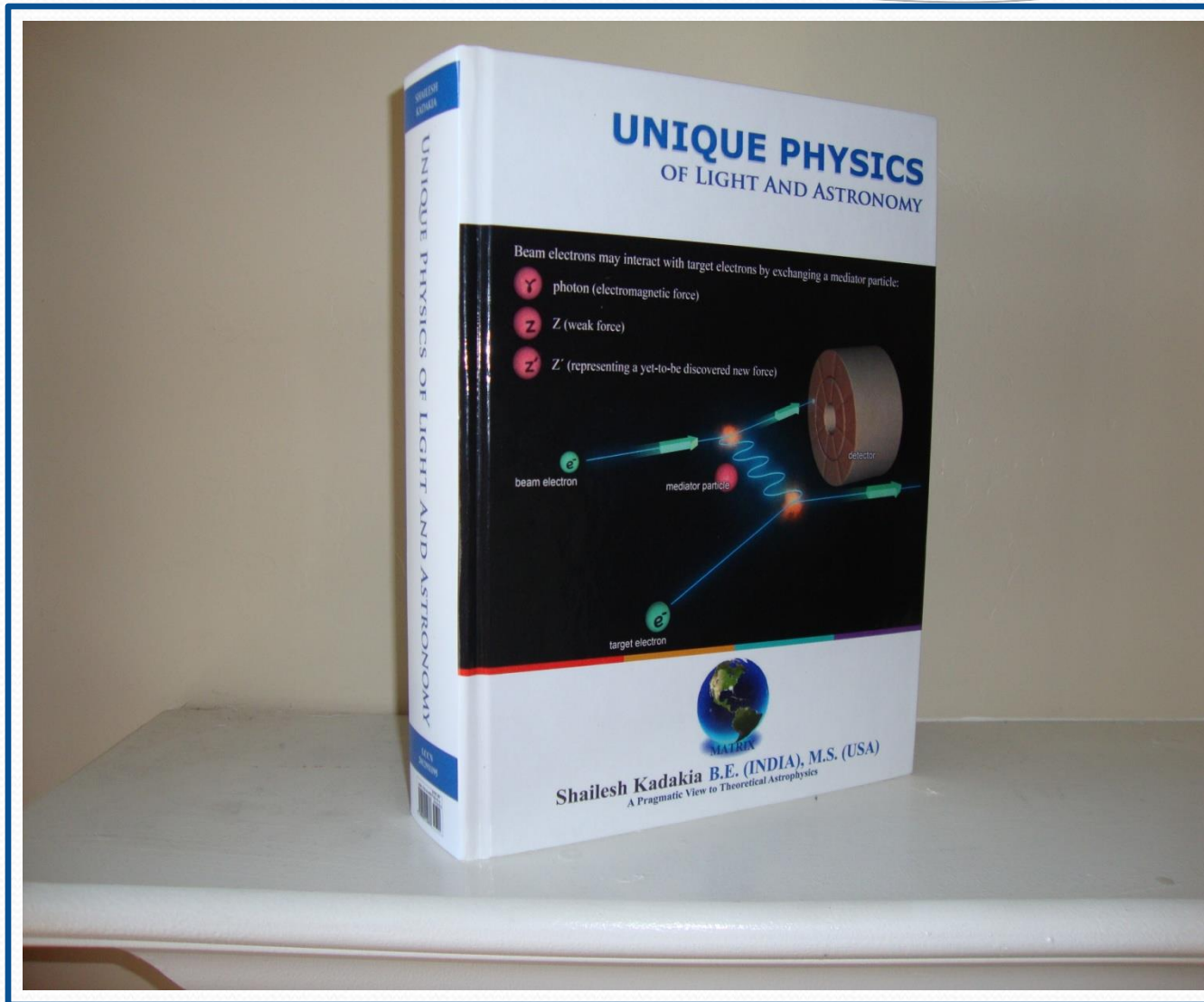
Proton



Neutron

- At nano/femto scale particles force of gravity is quantized
- Fundamental cause of gravity: Color force among quarks and magnetic moment. Quarks have fractional (quantized) charges.

Textbook: August 2016



What is Next?

Origin of Black holes

New Physics

[Research Continues]



Key References

- **M. Karim, “Auto-stabilized Electron”, International Journal of Modern Physics A, Vol. 35 , Nos. 2 &3 2020**
- **M Karim and A. Bokhari, “Auto-stabilized Electron 2.0,” April 2026**
- **A. French & E. Taylor, “An Introduction to Quantum Physics,” The MIT Introductory Physics, W.W.Norton & Company, 1978.**
- **A. Eddington, ”Space Time & Gravitation,” Cambridge University Press, 1921**
- **H. Ohanian and R. Ruffini, “Gravitation and Space-time,” W.W.Norton & Company, 1994.**
- **R. Feynman, “QED, The Strange Theory of Light and Matter”, Princeton University Press, 1985**
- **R. Serway & J. Jewett, Jr., “Physics for Scientists and Engineers with Modern Physics,” Saunders College Publishing, 2008.**
- **R. Freedman and W. Kaufmann III, “Universe,” W. H. Freeman and Company-New York, 2001**
- **Edited by Paul Davies, ”The New Physics,” Cambridge University Press, 1989.**
- **Tim Folger, “At the speed of Light–What if Einstein was wrong, “DISCOVER April 2003, 34-41.**
- **B. Greene,” The Elegant Universe: Super Strings, Hidden Dimensions and the Quest for the Ultimate Theory,” W. W. Norton & Company, Inc. 1999.**
- **Hawking, “A Brief History of Time,” Bantam Books, 1988**



U-tube & Other Links

- Relativity 108c: Schwarzschild Metric - Geodesics (Mercury perihelion advance, photon sphere)
- <https://www.youtube.com/watch?v=2pPvUx-EUqE>
-
- Relativity 108d: Schwarzschild Metric-Eddington-Finkelstein, Kruskal-Szekeres, White/Wormholes
- https://www.youtube.com/watch?v=O_2vnb_eVGE&t=803s
- J. Holmes, "What is Singularity, Exactly?"
- <https://www.youtube.com/watch?v=NLQNBfI97Ck>
- Gyroscope stability Space
- <https://www.youtube.com/watch?v=xQb-N486mA4>
- Inner space of Proton
- <https://www.wired.com/story/the-quest-to-map-the-inside-of-the-proton/>
- Gravity field within and exterior to Solid sphere of uniform mass density ρ
- https://isaacscience.org/questions/graph_interpretation_2_gravitational_field
- Vertical/short take-off and landing passenger aircraft
- <https://patents.google.com/patent/US8857755B2/en>





Shailesh (Sky) Kadakia, B.E. (INDIA), M.S. (USA)
Senior Math Instructor, Mathnasium of Rancho Penasquitos
9975 Carmel Mountain Rd. San Diego, CA 92129

Former Professor University of Pittsburgh, Johnstown PA
Electrical Engineering Technology Department

Home: 2549 E Valley Pkwy, Apt 163
Escondido, CA 92027

Phone: 1+ (760) 421-3958

Email: Shailesh.mwp@gmail.com

