

International Conference on Quantum Physics and Nuclear Engineering

March 14-16, 2016 London, UK

MINT-WIGRIS

Kalmbach H E Gudrun
MINT Verlag Germany

Dynamical geometries for octonian coordinates:

e0 vector projections:

1. Euclidean, spin
2. spherical volume, entropy
3. orbits of systems about a central axis
4. rotated vector cone, whirl
5. barycenter in volume, particle
6. wave, frequency, world line of a system with momentum, $p=mv$
7. cylindrical helix, light

Physical system: In mathematical terms, it is an object characterized by its properties; in physical terms it is a portion P of the physical world W chosen for analysis.

WIGRIS Descriptions

0 vectorial bifurcation to EM EM(pot) 1, GR E(pot) 5 (potentials, quarks); EM to E(magn) 4, E(heat) 2; GR to E(rot) 3, E(kin) 6; 2,3,4,6 to 8 gluons of SI, then heat chaos occurs.

Notations: EM electromagnetism, magn magnetism, rot rotation, kin kinetic, Gleason measures as GF triples; spaces R_n (C_n) n-dimensional real (complex) space, S_n unit sphere in $R(n+1)$, CP_n complex projective space with coordinates; list of (pseudo) particles or vectors; energy E, interactions (EMI electromagnetic, GR gravity, SI strong, WI weak), integration or relativities (SR special, AG general relativity):

1. **123 GF**, 1234 spacetime R_4 linear Euclidean, weak bosons and spin, WI and EM, Hopf geometry with S_3 , EM charge
2. **246 GF**, CP_2 complex projective 2-dimensional for inner spaces of energy systems with boundary S_2 , spherical, phonon, heat, 1246, inner pressure, rgb-graviton
3. **347 GF**, orbits and flat conic sections of a rotating system about an axis, angular momentum, 3457, GR cosmic speeds
4. **145 GF**, light cone Minkowski metric SR, 1456 (with frequency/speed added), leptons, WI/SI coordinates in SR motion, speed inversion to dark energy
5. **257 GF**, Schwarzschild radius and metric AG, Higgs boson and mass, GR, radius inversion for mass systems to dark matter
6. **365 GF**, complex 3-dimensional SI space C_3 123456 and S_5 , rotor, nucleon, gluon, 6 cooroll mill as SI 6 cycle for energy integrations, linear momentum
7. **176 GF**, cylindrical helix geometry, rolled circle S_1 , atom, photon, EMI, functions $\exp(i\varphi)$

There are three 4-dimensional subspaces: 1234 of spin (weak interaction and electromagnetism) – the WI/EM spacetime of physics, the light cone 1456 and the nuclear rotor 2356 of WIGRIS. Complex numbers are used for GF measures. In quantum mechanics, they are used for complex wave functions ψ ; they are not observables, but only $\psi \psi^*$ as real probability distribution for their location in space. There are three characters of systems P shown in experiments: In measurements, they can behave like waves (6,7), they can behave like particles (1,5), and whirls (3,4) is added as a third character. For volumes with pressure