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Geodesic Holonomy Attractor between Surfaces of Different Curvature Signs relevant to Spin Transport

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We will consider nonlinear holonomy effects -especially the spin dissipation dynamics- arising in the transport of a linear rotator between metric spaces with different curvature (positive, zero, negative). The extra 3D spin vector current induced by curvature and curvature change (measurable as precession) provides for a holonomic attractor called "Magic Angle Precession" (MAP) that could be relevant to 3D geodetic ows in classical mechanics, quantum physics, and quantum gravity based on chaotic dissipation. Limitations and instabilities of the spin current exchange are assigned to bifurcations at high precession loads as the driving gauge potential. In the classical range the chaotic dynamics can be verified with a mechanical toy gyroscope with built-in spin-precession coupling that could also be modeled by a Chua-type electronic circuit. Transporting vector currents composed by spin and precession is treated by Schwarz-Christoffel triangle maps with constant Schwarzian derivative and hypergeometric monodromy. In closed loops or periodic grids with alternating curvature the MAP attractor corresponds to a quantum state allowing for a lossless spin current transport without reflection. The Schrodinger hypergeometric quantum mechanical solution corresponds to Poschl-Teller type equations with factorization and ladder operators. By pull-back we get the generalized Gauss linking number density differential form.
Keywords: holonomy, chaotic precession, geometric phase, hypergeometric, curvature, Berry, Chua, quantum gravity, Schrodinger, Poschl - Teller, Legendre, Gegenbauer, Gauss, linking number, spin, magic angle spinning.