

Abstract Submitted  
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**Physics**

**Proofs**

**of Four Millennium-Problems(MP) via CATEGORY-SEMANTICS(C-S)/F=C Aristotle SQUARE-of-OPPOSITION(SoO) DEduction-LOGIC Dichotomy** L. CLAY, E. SIEGEL, “FUZZYICS”=“CATEGORYICS”(F=C)/C-S(“SON of ’TRIZ”)/La Jolla — Siegel-Baez C-S/F=C tabular list-format matrix truth-table analytics SoO jargonial-obfuscation elimination query WHAT? yields four “pure”-maths MP “Feet of Clay!!!” proofs:(1)Siegel [AMS Natl.Mtg.(2002)-Abs.#:973-03-126:(@CCNY;1964!!!)<<<(1994; Wiles)]Fermat’s: Last-Theorem = Least-Action Principle; (2) P=/=NP TRIVIAL simple Euclid geometry/dimensions: NO computer anything;“Feet of Clay!!!”; (3)Birch-Swinnerton-Dyer conjecture; (4)Riemann-hypotheses via combination of: Siegel [AMS Natl.Mtg. (2002)-Abs.#:973-60-124 digits logarithmic-law simple algebraic- inversion to ONLY BEQS with ONLY zero-digit BEC, AND Rayleigh [(1870);graph-theory “short-CUT method”[Doyle- Snell,Random- Walks & Electric-Networks,MAA(1981)]-“Anderson” [PRL(1958)] critical-strip 1/2 complex-plane localization!!! SoO Dichotomy (“v”) Identity: numbers(Euler v Bernoulli) = (Sets v Multisets) = Quantum-Statistics(F.-D. v B.-E.) = Power- Spectra( $1/f(0)$  v  $1/f(1.000\dots)$ ) = Conic-Sections(Ellipse v (Parabola) v Hyperbola) = Extent(Locality v Globality); Siegel [MRS Fractals Symp.(1989)](so MIScalled)“complexity” as UTTER- SIMPLICITY (!!!) v COMPLICATEDNESS MEASURE(S) definition.

E. Siegel  
“FUZZYICS”=“CATEGORYICS”(F=C)/C-S(“SON of ’TRIZ”)/La Jolla

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