

Abstract Submitted  
for the MAR11 Meeting of  
The American Physical Society

**Riemann-Hypothesis Millennium-Problem(MP) Physics Proof**  
via **CATEGORY-SEMANTICS(C-S)/F=C** **Aris-**  
**totle SQUARE-of-OPPOSITION(SoO) DEduction-LOGIC Dichotomy**  
J. BAEZ, M. LAPIDARYUS, EDWARD CARL-LUDWIG SIEGEL, FUZZY-  
ICS=CATEGORYICS(SON OF TRIZ)/CATEGORY-SEMANTICS — Riemann-  
hypothesis physics-proof combines: Siegel-Antonoff-Smith[AMS Joint Mtg.(2002)-  
Abs.973-03-126] digits on-average statistics Hill[Am. J. Math 123, 3, 887(1996)]  
logarithm-function's (1,0)-fixed-point base=units=scale-invariance proven New-  
comb[Am. J. Math. 4, 39(1881)]-Weyl[Goett. Nachr.(1914); Math. Ann.  
7, 313(1916)]-Benford[Proc. Am. Phil. Soc. 78, 4, 51(1938)]-law [Kac,  
Math. of Stat.-Reasoning(1955); Raimi, Sci. Am. 221, 109(1969)] algebraic-  
inversion to ONLY Bose-Einstein quantum-statistics(BEQS) with digit  $d = 0$   
gapFUL Bose-Einstein Condensation(BEC) insight that digits are quanta are  
bosons were always digits, via Siegel-Baez category-semantics tabular list-format  
matrix truth-table analytics in Plato-Aristotle classic "square-of-opposition" :  
FUZZYICS=CATEGORYICS/Category-Semantics, with Goodkind Bose-Einstein  
condensation(BEC) ABOVE ground-state with/and Rayleigh(cut-limit of "short-  
cut method";1870)-Polya(1922)-"Anderson"(1958) localization [Doyle and Snell,  
Random-Walks and Electrical-Networks, MAA(1981)-p.99-100!!!].

Edward Carl-Ludwig Siegel  
FUZZYICS=CATEGORYICS(SON OF TRIZ)/CATEGORY-SEMANTICS

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