

Abstract Submitted  
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**(BNL/DoE-hyped) "Self-Organized-Criticality"(SOC) is Merely Newton's(1687) Third Law of Motion  $F = ma$  REdiscovery: LONG PRE-"Bak"!!!** P.R.E. BAK, I. NEWTON, EDWARD CARL-LUDWIG SIEGEL, FUZZYICS=CATEGORYICS(SON OF TRIZ)/CATEGORY-SEMANTICS — "Bak"/BNL/DoE "self-organized-criticality"(SOC) usual BNL/DoE media-hype P.R spin-doctoring "show-biz" "Bush-waaa-...-aaah!!!" is manifestly-demonstrated in two distinct ways to be nothing but Newton's Third Law of Motion  $F = ma$  RE-discovery!!! PHYSICS: (1687) cross-multiplied  $F = ma$  rewritten as  $1/m = a/F = \text{OUTPUT/INPUT} = \text{EFFECT/ CAUSE} = \text{inverse-mass mechanical-susceptibility} = X ("w ")$ ;  $X ("w ") \sim (\text{F.-D. theorem-equivalence /proportionality}) \sim P("w ")$  "noise" power-spectrum;  $E \sim w$ ; and  $E \sim (\text{any/all media upper-limiting-speeds}) \sim m$ . Thus:  $w \sim E \sim m$ ; inversion yields:  $1/w \sim 1/E \sim 1/m \sim a/F = X ("w ") \sim P("w ")$ ; hence:  $F = ma$  dual/inverse-integral-transform is "'SOC"'s"  $P(w) \sim 1/w^{\wedge}(1) !!!$ ; "PURE"-MATHS:  $F = ma$  double-integral time-series  $s(t) = [\text{vot} + (1/2) \text{at}^{\wedge}(2)]$  inverse/dual-integral-transform formally defines power-spectrum:  $P(w) = S \{s(t) e^{\wedge}[-(i \text{ OR no } i)wt]\} dt = S \{[\text{vot} + (1/2) \text{at}^{\wedge}(2)] e^{\wedge}[-(i \text{ OR no } i)wt]\} dt = \text{vo} S \{t e^{\wedge}[-(i \text{ OR no } i)wt]\} dt + (1/2) S \{[a \text{ =/= } a(t)] e^{\wedge}[-(i \text{ OR no } i)wt]\} dt = \text{vo} (d/dw) \Delta(w) + (1/2) [a \text{ =/= } a(t)] (d/dw)^{\wedge}(2) \Delta(w) = \text{vo}/w^{\wedge}(0) + (1/2) [a \text{ =/= } a(t)] /w^{\wedge}1$ : if  $a = 0$ , then  $P(w) \sim 1/w^{\wedge}0$ , VS. if  $a \text{ =/= } a(t) \text{ =/= } 0$ , then  $P(w) \sim 1/w$ ; = by physics: "SOC" RE-expresses  $F = ma$ !!!: "just 'a tad' late/tardy" REdiscovery of  $F=ma$ : LONG PRE-"Bak"!!!

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