

Abstract Submitted
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(so: called/BNL/DoE-hyped) “Self-Organized-Criticality”(SOC) is Merely Newton’s(1687) Law of Motion $F = ma$ REdiscovery: LONG PRE-“Bak”!!! P.R.E. BAK, E. SIEGEL, EMET/F=C/C-S/La Jolla — “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 Law of Motion $F = ma$ REdiscovery!!! PHYSICS: (1687) cross-multiplied $F = ma$ rewritten as $1/m = a/F = \text{OUTPUT/INPUT} = \text{EFFECT/CAUSE} = \text{inverse-mass mechanical-susceptibility} = \chi(\omega)$; $\chi(\omega) \sim (\text{fluctuation-dissipation theorem-equivalence /proportionality}) \sim P(\omega)$ “noise” power-spectrum; $E \sim \omega$; and $E \sim$ (or any/all media with upper-limiting-speeds) $\sim m$. Thus: $\omega \sim E \sim m$; inversion yields: $1/\omega \sim 1/E \sim 1/m \sim a/F = \chi(\omega) \sim P(\omega)$; hence: $F = ma$ dual/inverse-integral-transform is “SOC”’s” $P(\omega) \sim 1/\omega$!!! ; “PURE”-MATHEMATICS: $F = ma$ double-integral time-series $s(t) = [\text{vot} + (1/2) at^{(2)}]$ inverse/dual-integral-(Fourier, Laplace)-transform formally defines power-spectrum: $P(\omega) = \Xi s(t) e^{[-(iORnoi)wt]} dt = \Xi[\text{vot} + (1/2) at^2] e^{[-(iORnoi)wt]} dt = \text{vo} \Xi t e^{[-(iORnoi)wt]} dt + (1/2) \Xi [a \neq a(t)] e^{[-(iORnoi)wt]} dt = \text{vo} (d/d\omega) \delta(\omega) + (1/2) [a \neq a(t)] (d/d\omega)^{(2)} \delta(\omega) = \text{vo}/\omega(0) + (1/2) [a \neq a(t)] / \omega^{(1.000...)}: \text{if } a = 0, \text{ then } P(\omega) \sim 1/\omega(0), \text{ versus if } a \neq a(t) \neq 0, \text{ then } P(\omega) \sim 1/\omega \sim 1/\omega^{(1.000...)}; \text{ same exact conclusion as from physics: SOC } \leq(\text{reexpresses})=\geq F = ma!!!: \text{ SOC Rediscovery of } F=ma: \text{ LONG PRE-“Bak”!!!}$

E. Siegel
EMET/F=C/C-S/La Jolla

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