

The Lévy-Flight Landscape: Measured Tail Exponents Against the Ballistic and Diffusive Boundaries and the Optimum $\mu = 2$

Lévy regime $1 < \mu \leq 3$; stable-law and MSD entries converted per each row's own dictionary (see quantity column)

ECOLOGY-CLASSIC

wandering albatross flight durations	2.0
spider monkeys	2.18

ECOLOGY

marine predators pooled (24 individuals)	2.12 [~2-3 dec]
basking shark	2.3 [~2-3 dec]
bigeye tuna	2.4 [~2-3 dec]
Atlantic cod	1.9 [~2-3 dec]
leatherback turtle	1.7 [~2-3 dec]
Magellanic penguin	2.4 [~2-3 dec]
bigeye tuna refit after critique	1.366
mussels pattern formation (original)	2.03
mussels reanalysis (single PL; MLE)	1.397
mussels as Weierstrassian LW	2.195
displaced honeybees	2.0
Drosophila larvae CPG-generated turning	1.96 ± 0.39

CELLS

CD8+ T cells in infected brain	2.15
metastatic melanoma B16-F10 in vivo	2.36 ± 0.13

HUMAN

mobile phone users (100k; 16.3M jumps)	1.75 ± 0.15
banknote dispersal USA	1.59 ± 0.02
banknote rest/waiting times	1.60 ± 0.03
human GPS walks, 5 outdoor sites	0.66-1.02 by (pauses 0.45-1.68)

FINANCIAL-CLASSIC

S&P 500 returns central region	1.4 (c)
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FINANCIAL

index returns central region re-measure	1.6 (pos) / 1 ± 0.1
index return tails (inverse cubic)	2.95 (pos) / ± 0.07

PHYSICS-CLASSIC

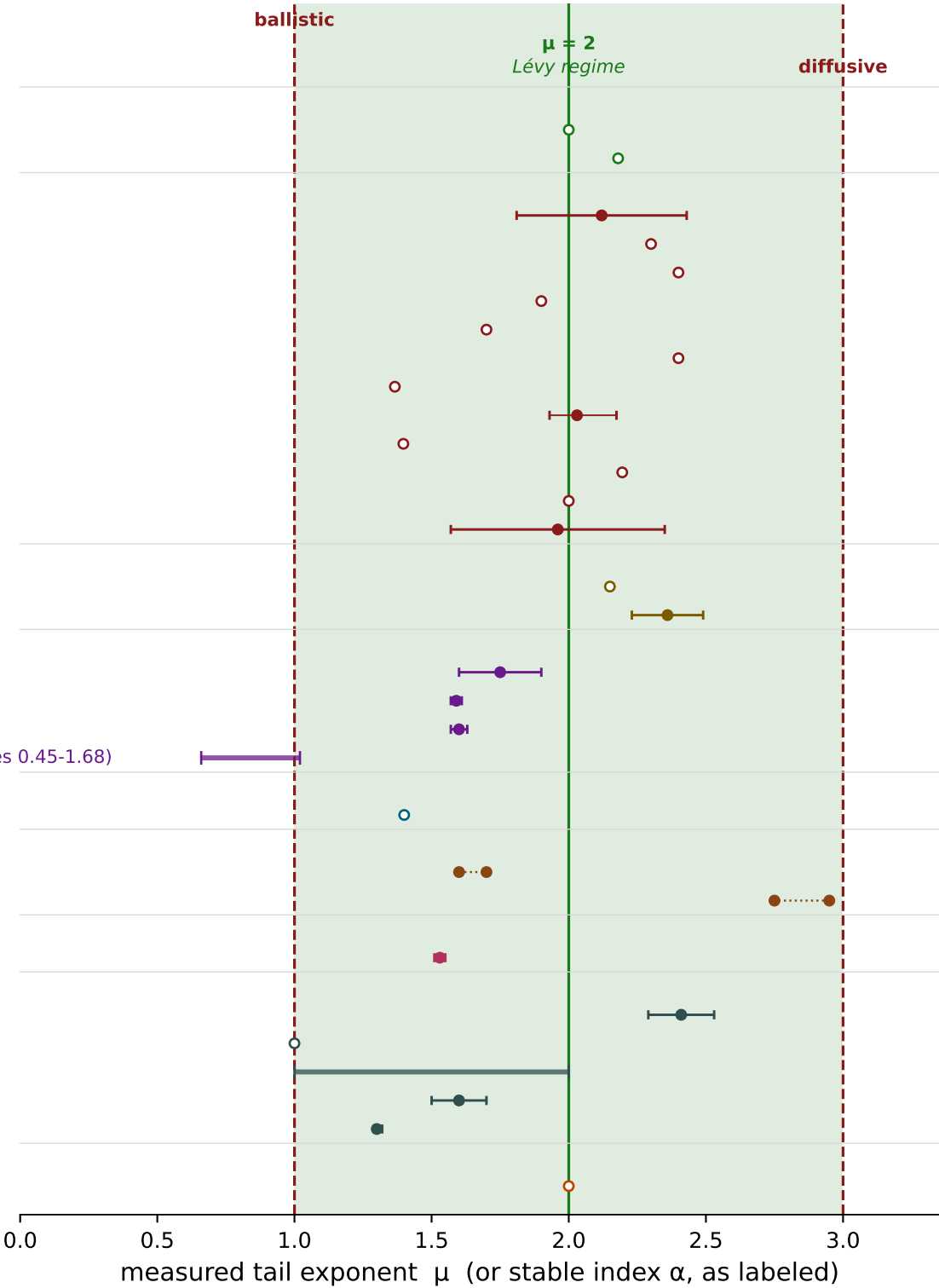
CdSe quantum dot blinking	1.53 ± 0.02 (c)
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PHYSICS

resonant photons in hot Rb vapor	2.41 ± 0.12
Levy glass (engineered scatterer)	1.0 (c)
ultracold Rb, 1D dissipative lattice	1-2 range
CdTe quantum dot blinking	1.6 ± 0.1 (c)
energetic ions upstream of termination shock	1.30 (1.29-1.32)

THEORY

theory benchmark: sparse targets	2.0
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Not placeable on this axis (reported, not dropped): albatross + deer + bumblebee reanalysis [no Levy]; wandering albatross GPS (126 birds) [0.31]; 14 open-ocean predator species [$1 < \mu \leq 3$ in 61/66 sections]; Levy foraging hypothesis critique [abandonment argued]; CCRW vs LW distinguishability [CCRW often mimics LW]; brain T cells reanalysis [CRW not Levy]; metastatic lines PC-3M/MDA-MB-231/B16-F1 [$1 < \mu < 3$]; non-metastatic lines PC-3/MCF-7/B16-F0 [> 3 (diffusive)]; swarming *B. subtilis* & *S. marcescens* [$a=1.6$; $g=2.5$; $b=1.27$]; Hadza hunter-gatherers [0.40]; rural human foragers [reported]; energetic particles at heliospheric shocks [$1 < \mu < 2$]; cross-domain compendium [n/a]

(c) = compiled (u?) = unverified ◇ = exact