

# Ellipticity

<https://twitter.com/nntaleb/status/1263097582613606400>



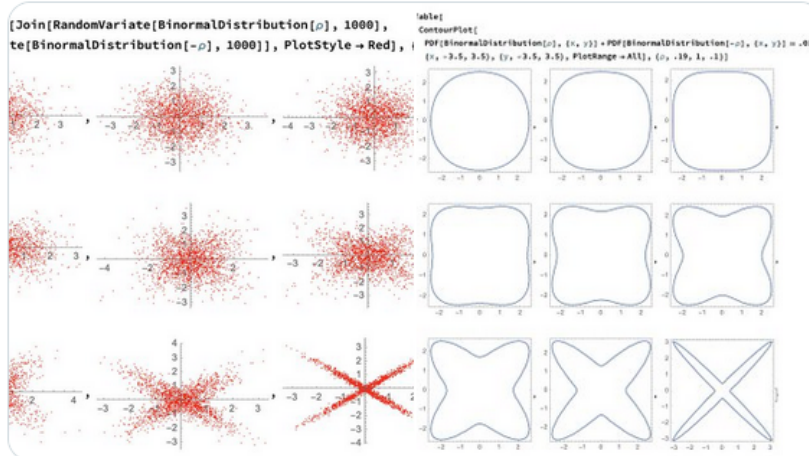
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@nntaleb

...

## PROBABILITY DU JOUR

Explaining with minimal complexity the non-ellipticity of probability distributions when the correlation is unstable.

Explains the failures of RISK PARITY, some BS invention that sells to gullible clients innocent of probability.

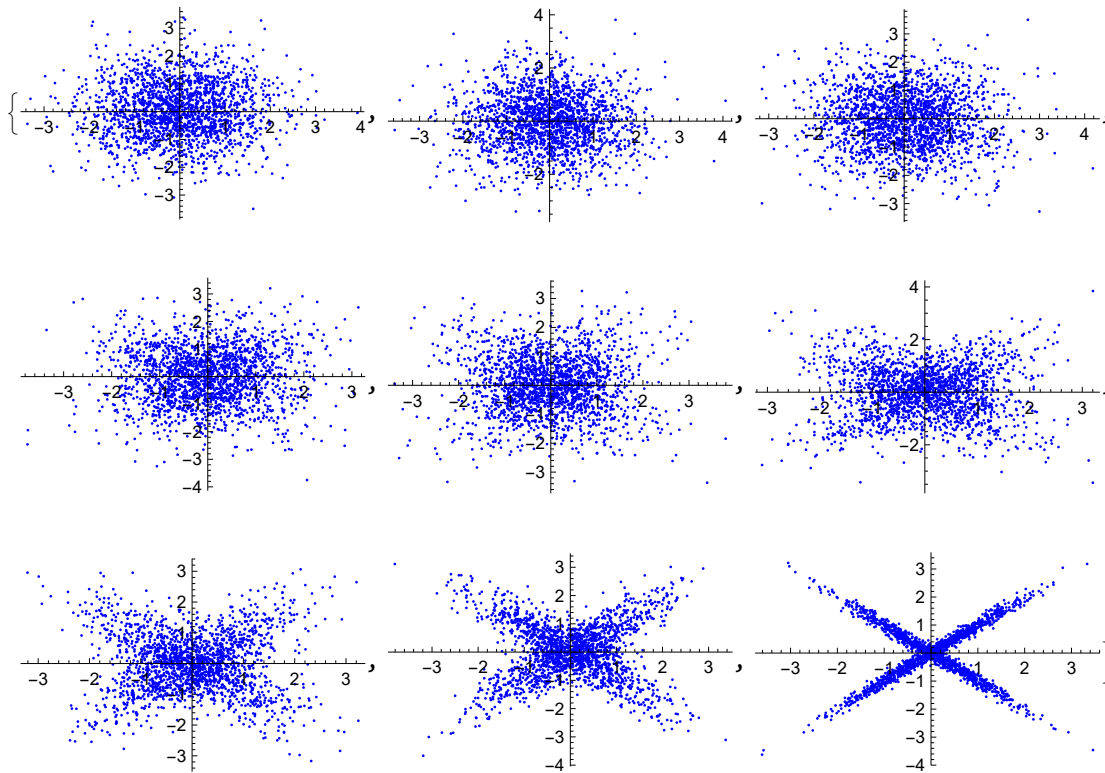


```

In[ ]:= Table[ListPlot[Join[RandomVariate[BinormalDistribution[ $\rho$ ], 1000],
    RandomVariate[BinormalDistribution[- $\rho$ ], 1000]], PlotStyle -> Blue], { $\rho$ , 0.19, 1, 0.1}]

```

Out[ ]=



```

In[ ]:= Table[ContourPlot[
  PDF[BinormalDistribution[ρ], {x, y}] + PDF[BinormalDistribution[-ρ], {x, y}] == 0.01,
  {x, -3.5, 3.5}, {y, -3.5, 3.5}, PlotRange → All], {ρ, 0.19, 1, 0.1}]

```

General: Exp[-1224.65] is too small to represent as a normalized machine number; precision may be lost. [i](#)

Out[ ]:=

