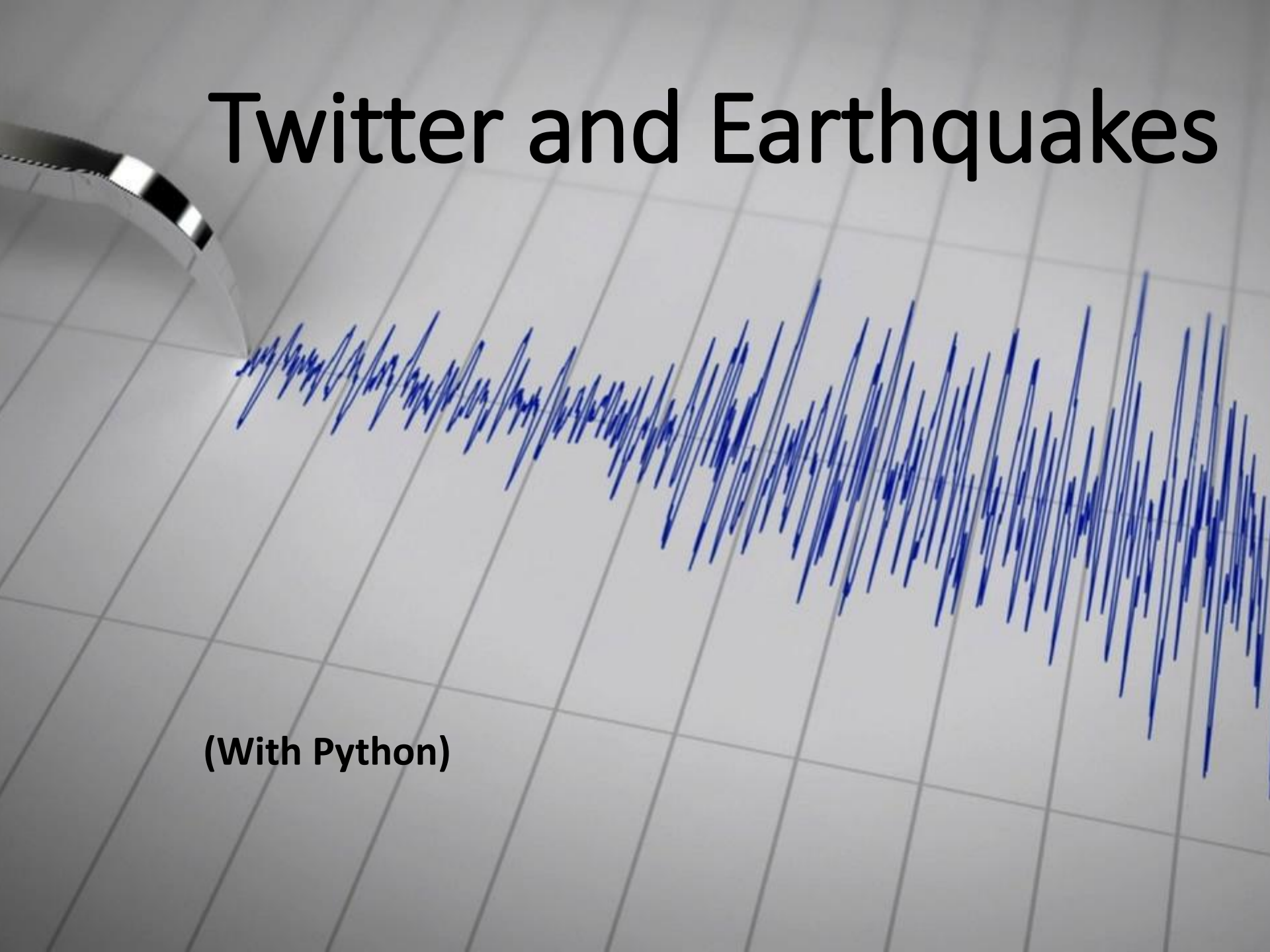
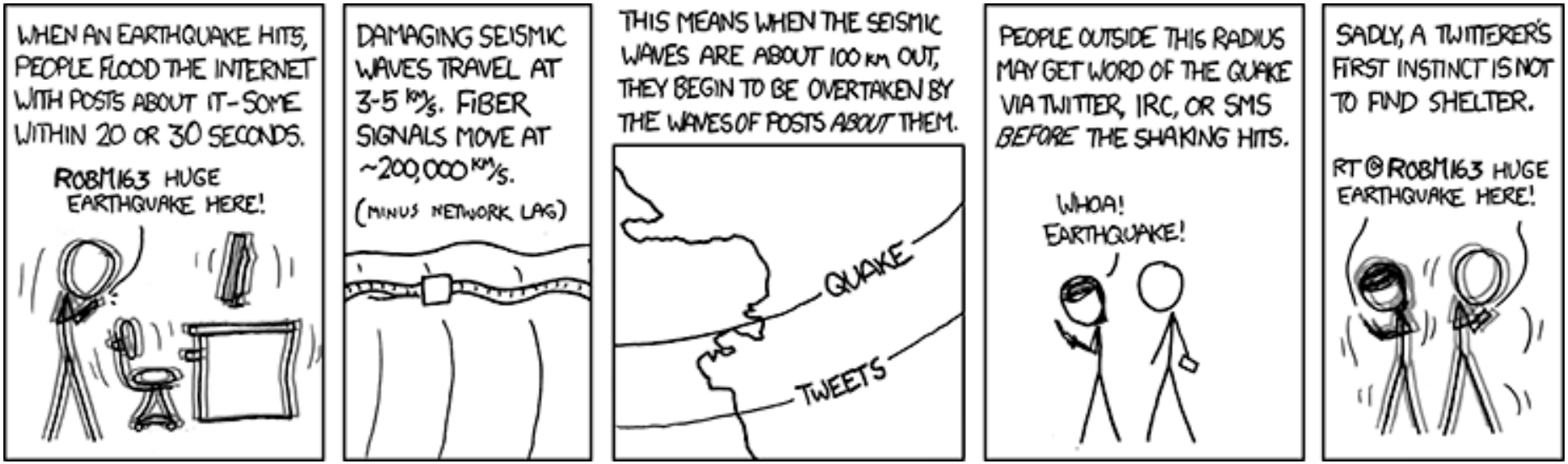
Twitter and Earthquakes

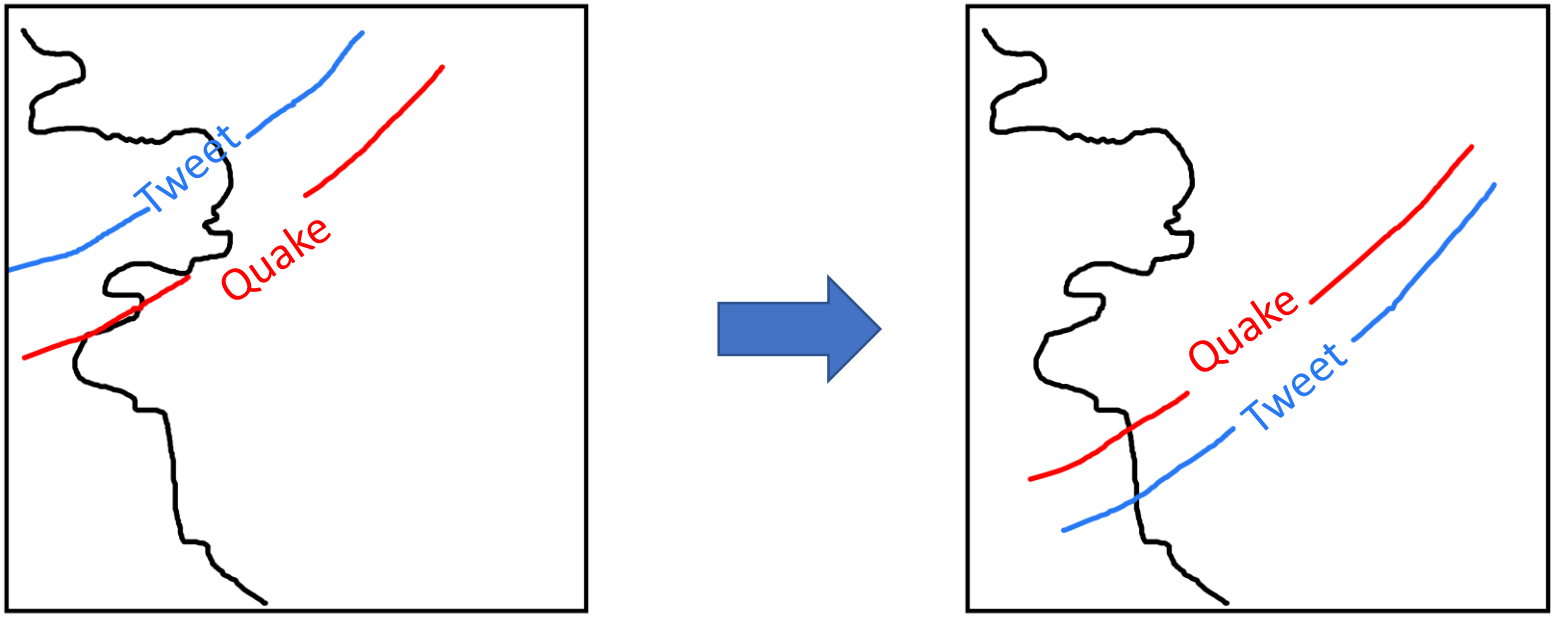


(With Python)

The XKCD webcomic

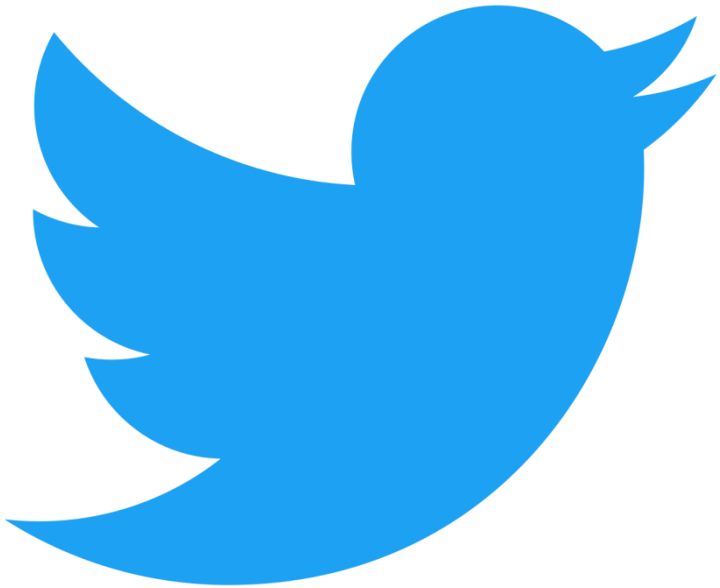


Motivation

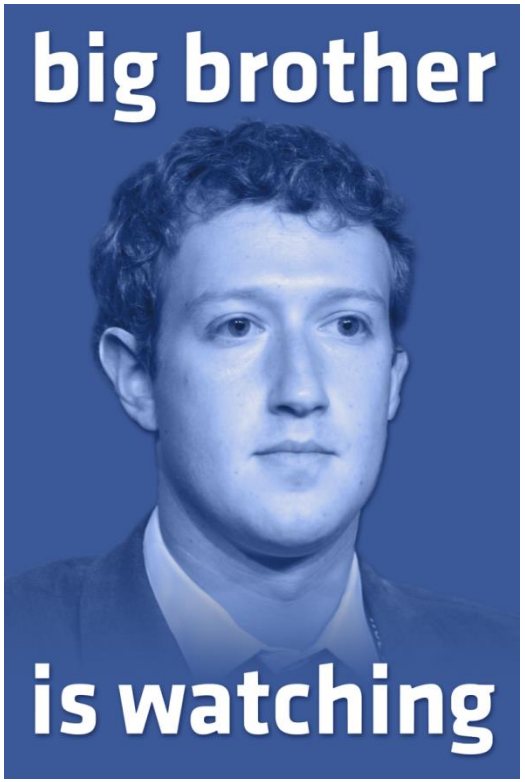


EARTHQUAKE! WHAT TO DO!?

- *Scream*
- *Get safe*
- Tweet «earthquake omg»



Tweets are scary



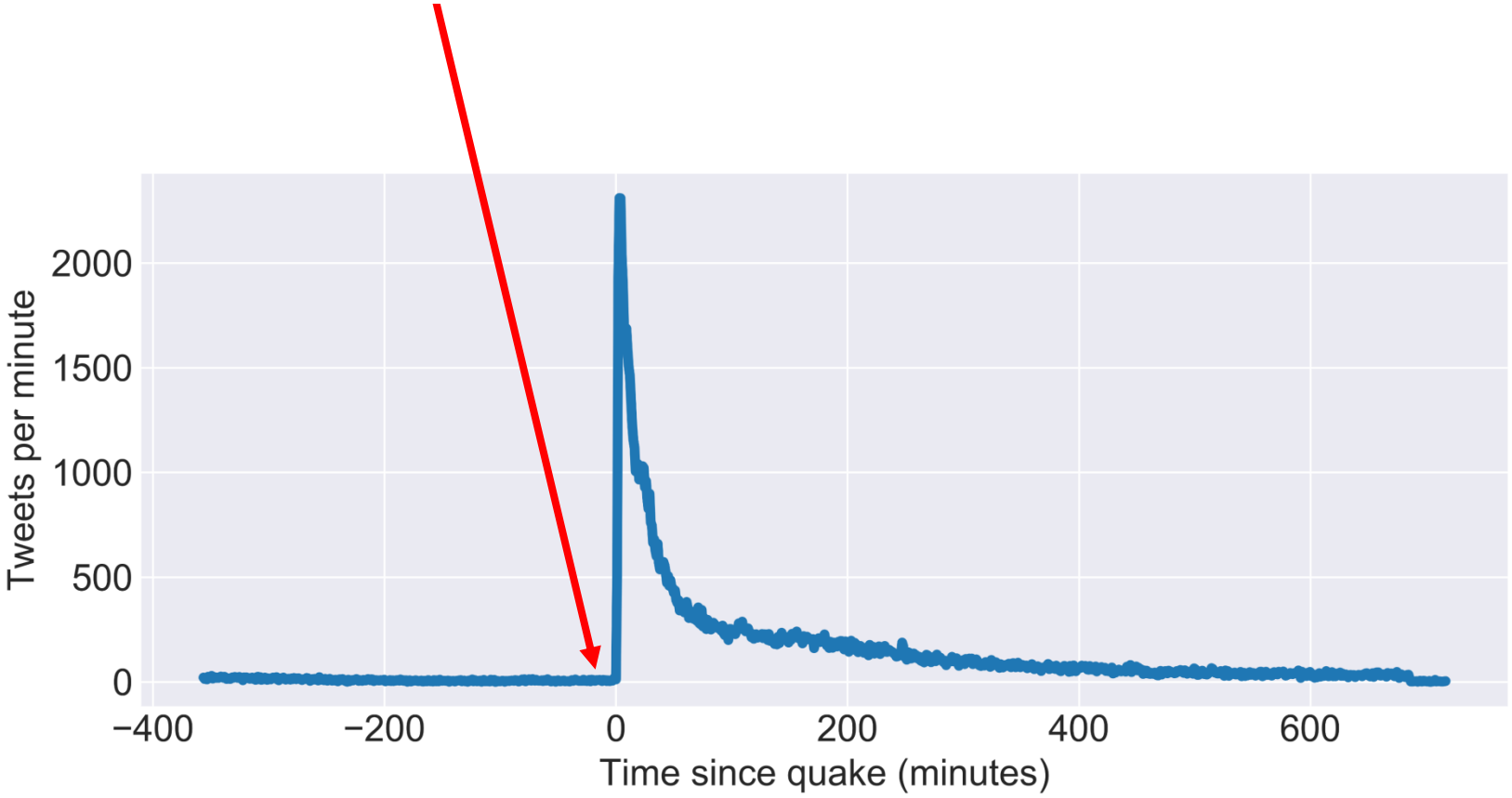
It is very easy to track your daily life

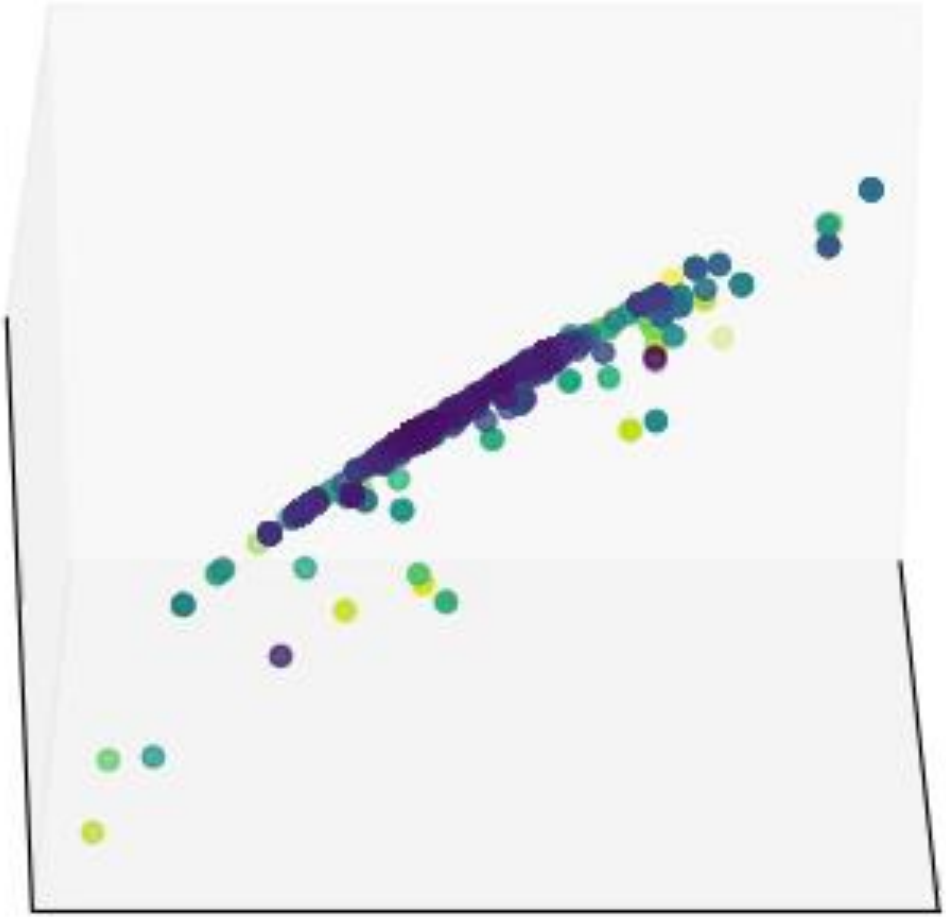
Oklahoma – 03/09/2016, 6AM

Magnitude 5.8 Earthquake

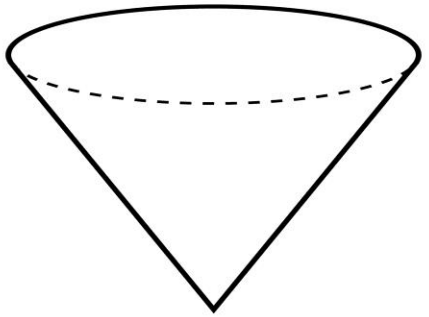
Tweets per minute

I feel invincible earthquake powerful just like a tidal wave 💪





Data fitting



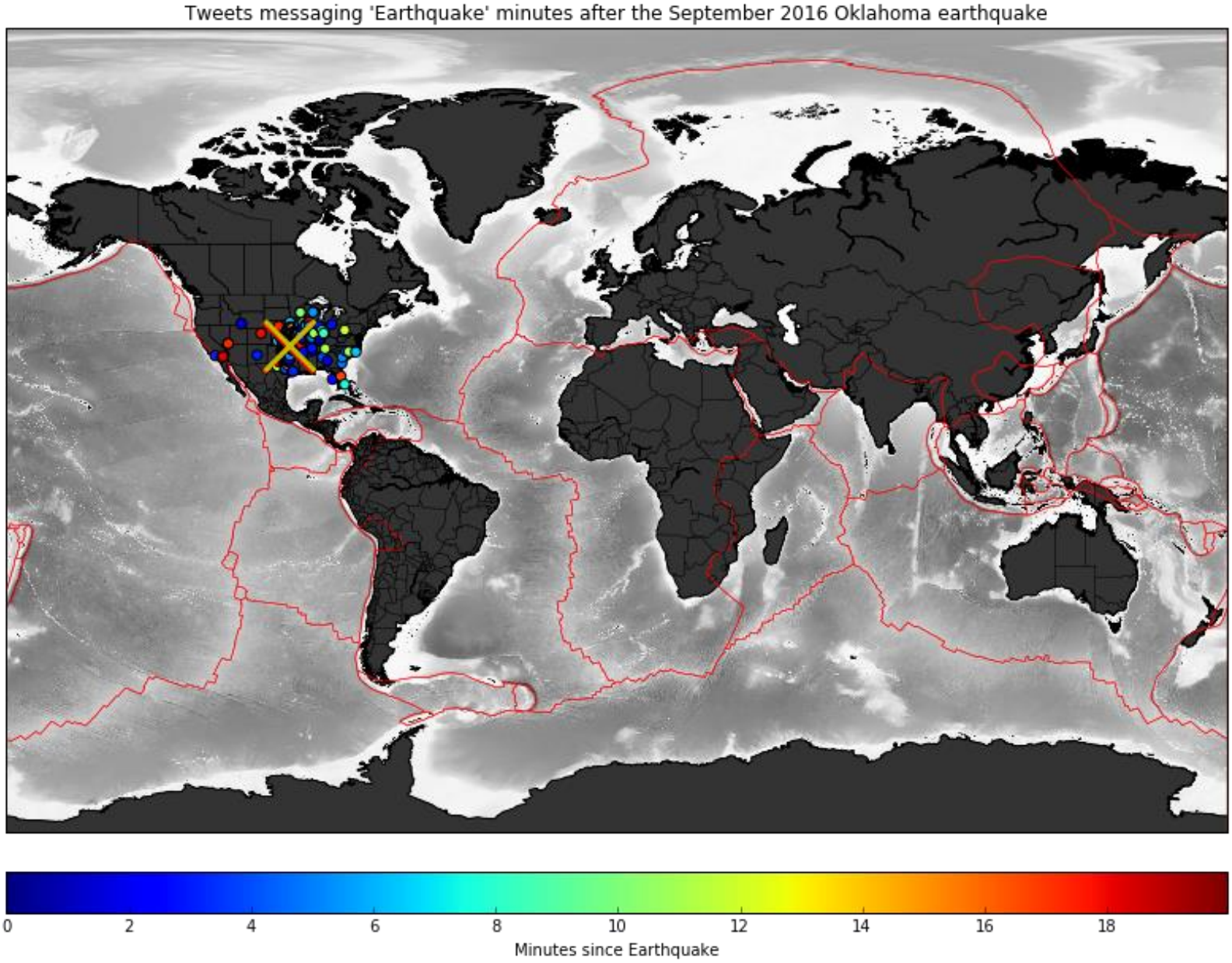
- Assume earthquake travels at constant speed from a point – *a cone*

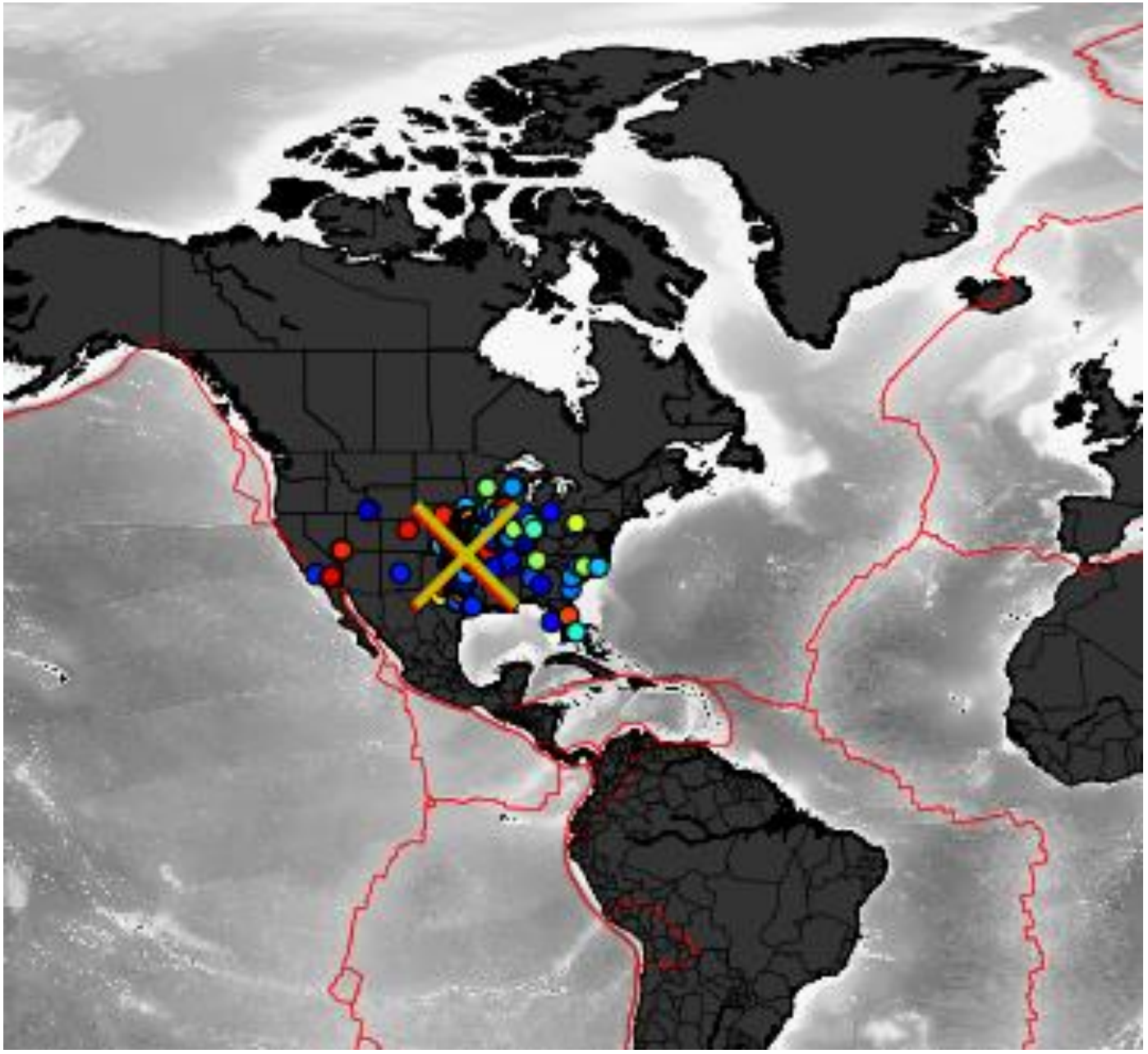
$$time = a\sqrt{(x - x_0)^2 + (y - y_0)^2}$$

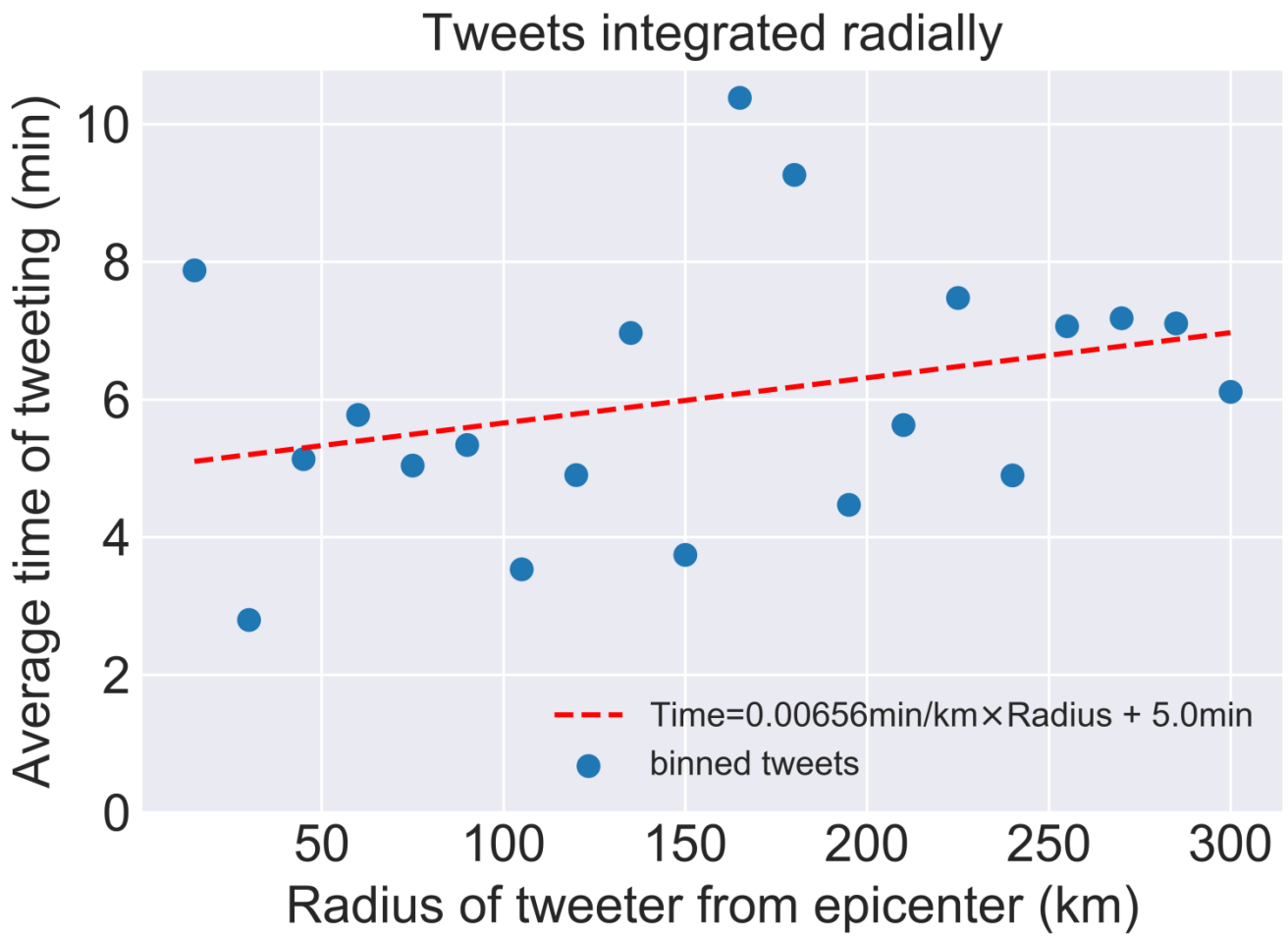
- People take a moment to tweet:

$$time = a\sqrt{(x - x_0)^2 + (y - y_0)^2} + c$$

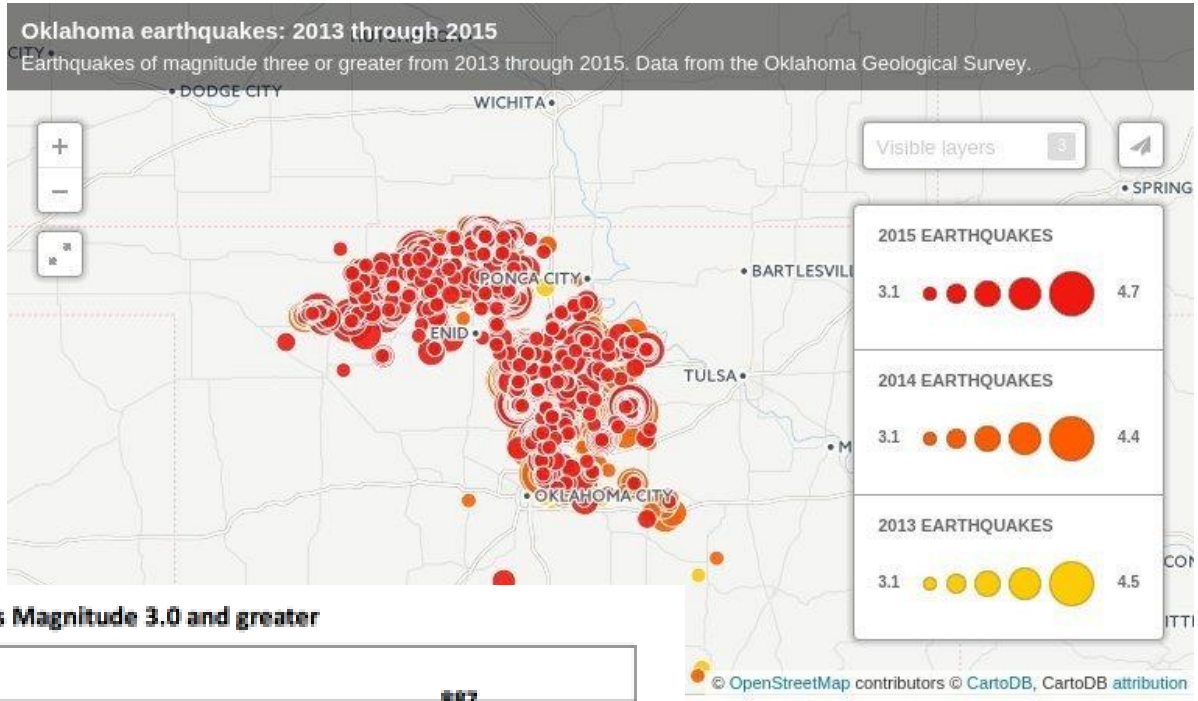
Found epicenter within 9km

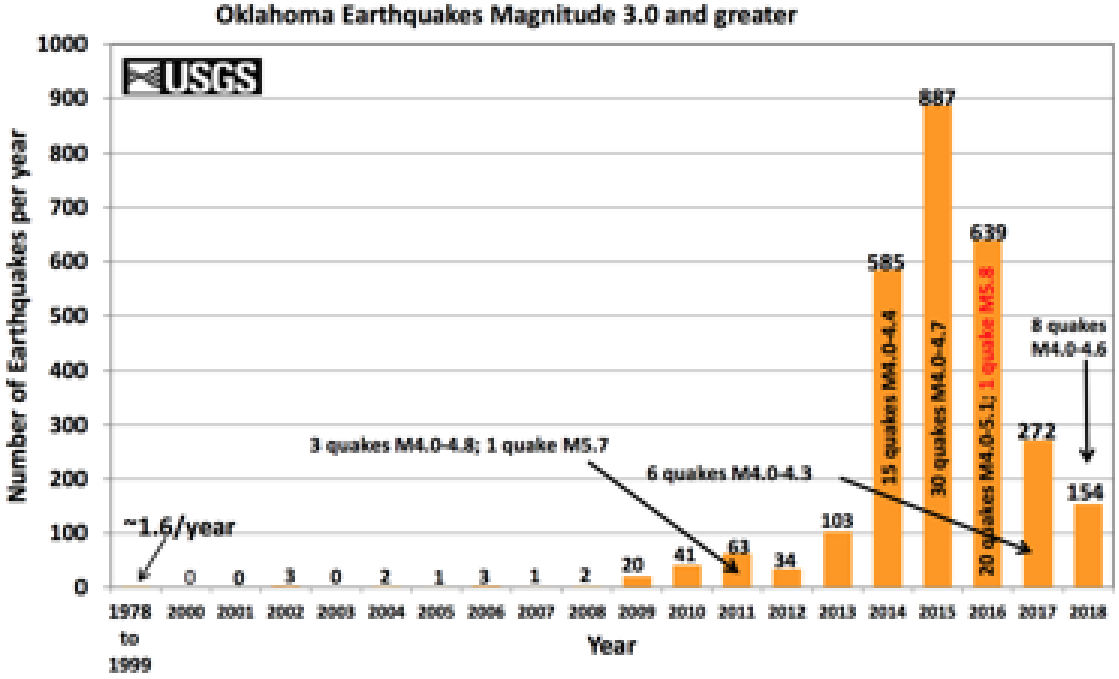






- Earthquake travelled at 2.5km/s
- People take 5 min to tweet





Source: USGS-NEIC ComCat & Oklahoma Geological Survey; Preliminary as of Dec 3, 2018

Can we use this for good?

Thanks!

- I welcome ideas for tracking other behaviour!

(work done using jupyter, python-twitter, matplotlib, scipy and hyperspy)