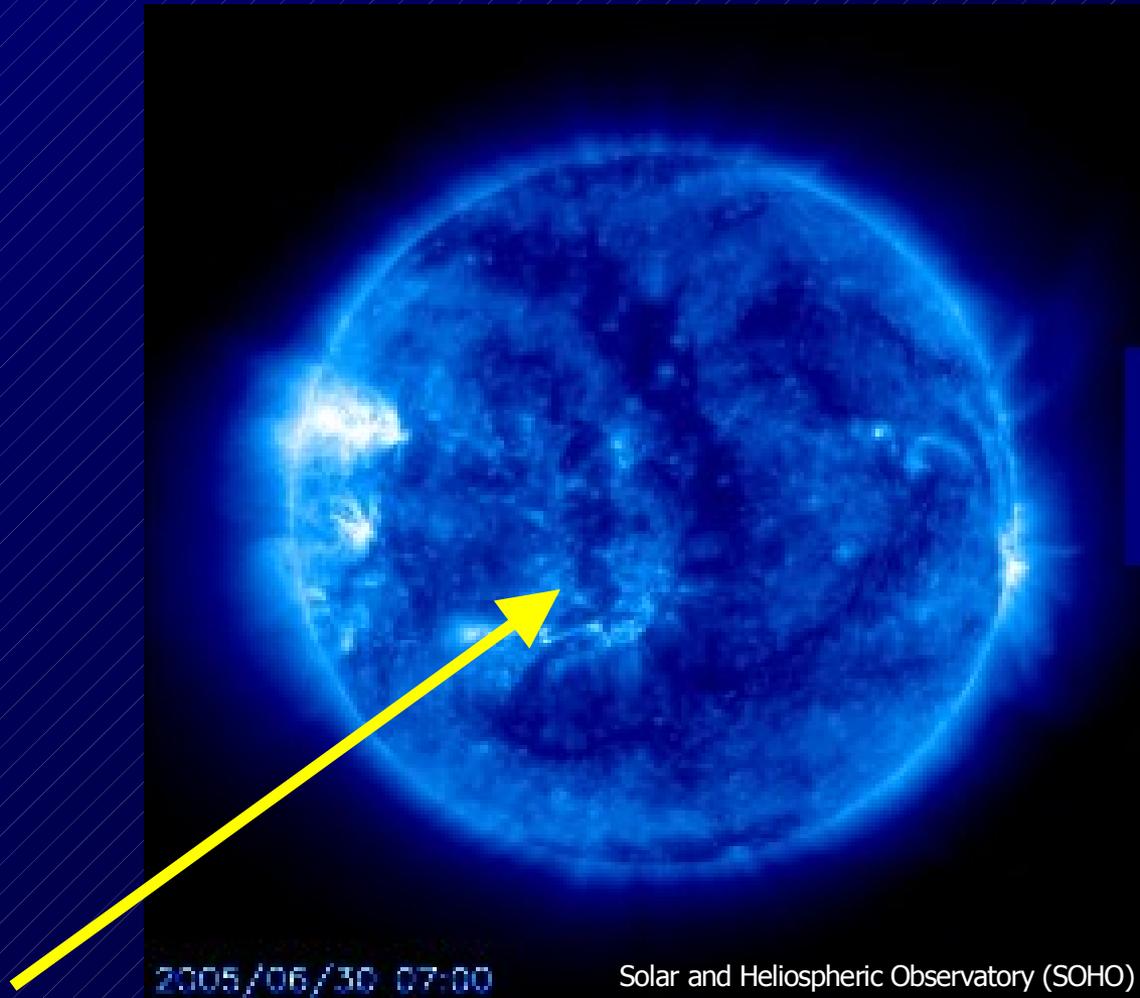


Understanding Some Ugly Environments: Accretion Disks Around Black Holes and Websites for Teachers

David Rothstein
Cornell University

Black Hole Environments Can Be Messy

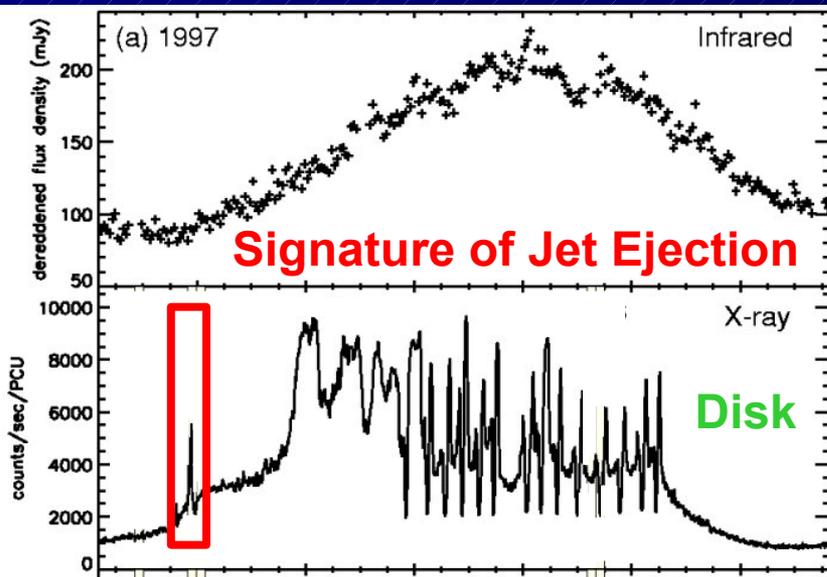


Turn this into a black hole accretion disk → replace nuclear reactions with turbulence driven by gravity

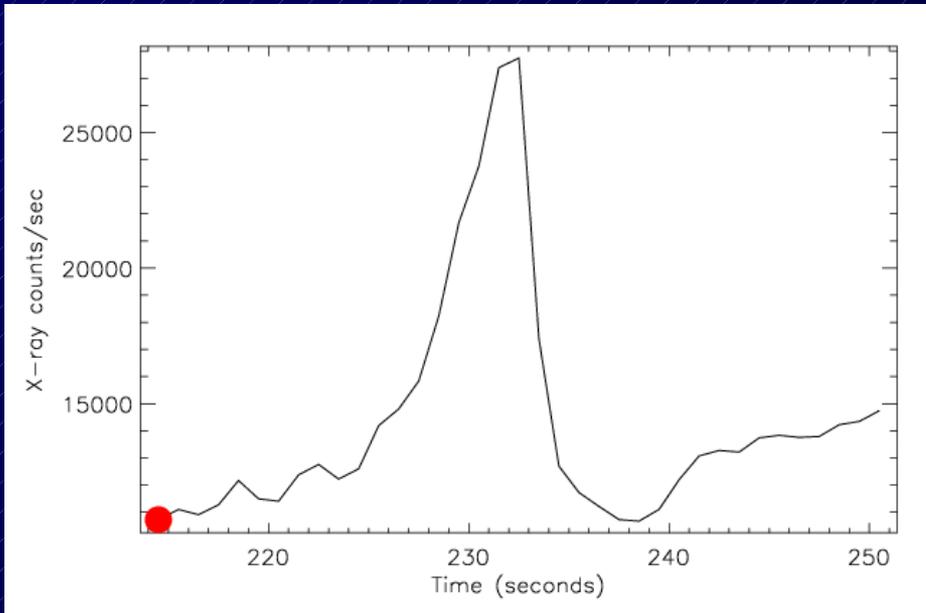
Observations

GRS 1915+105

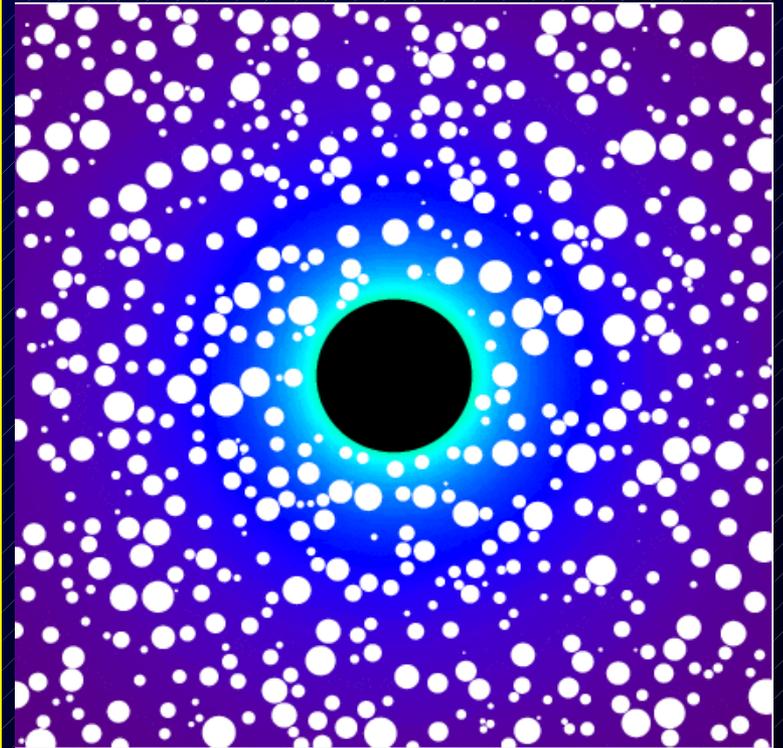
(Eikenberry et al. 1998; Rothstein et al. 2005)



~ 20 min



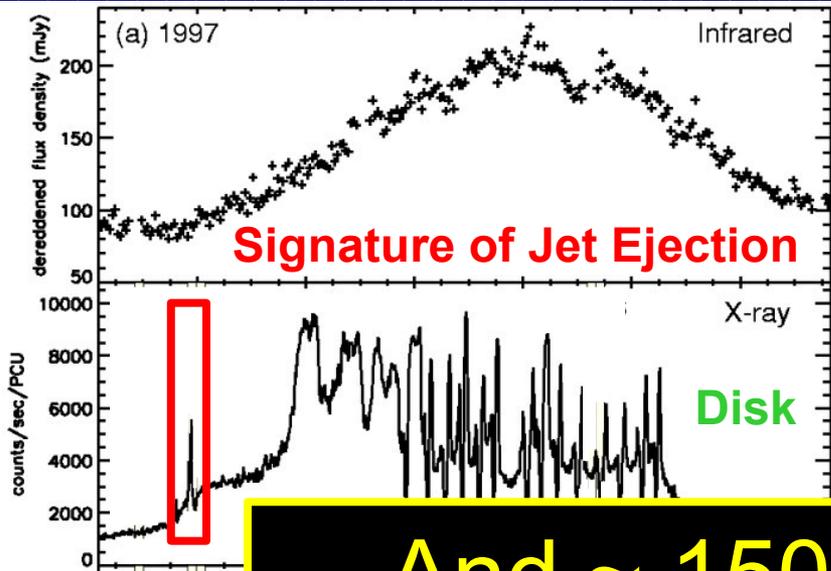
“Reality-based cartoon”
(from X-ray spectrum)



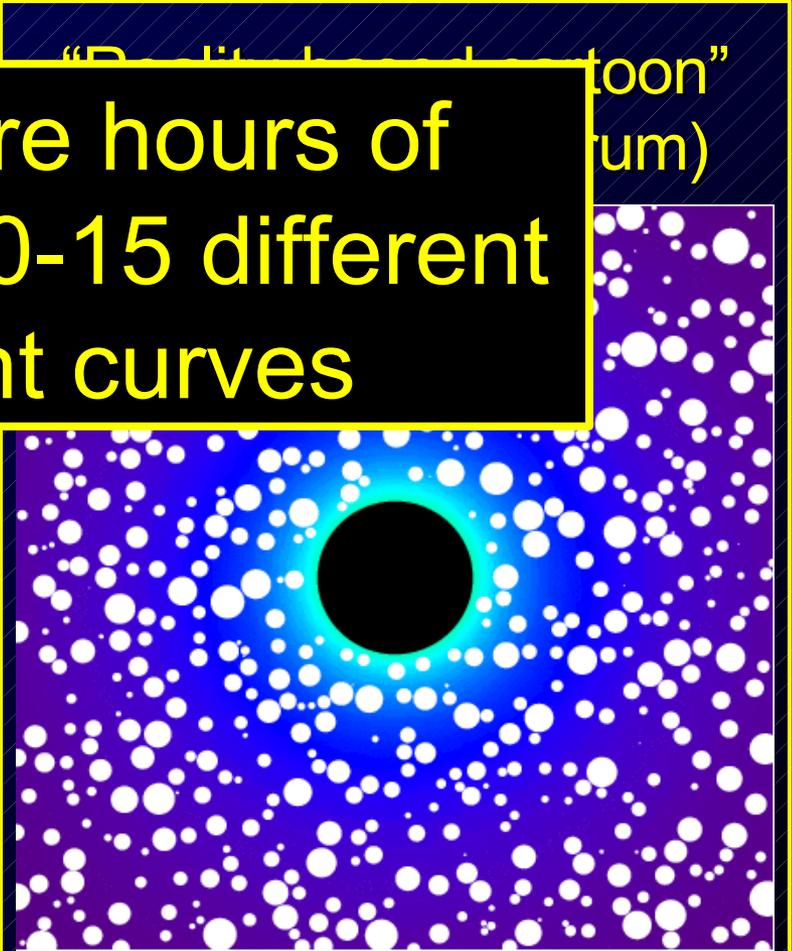
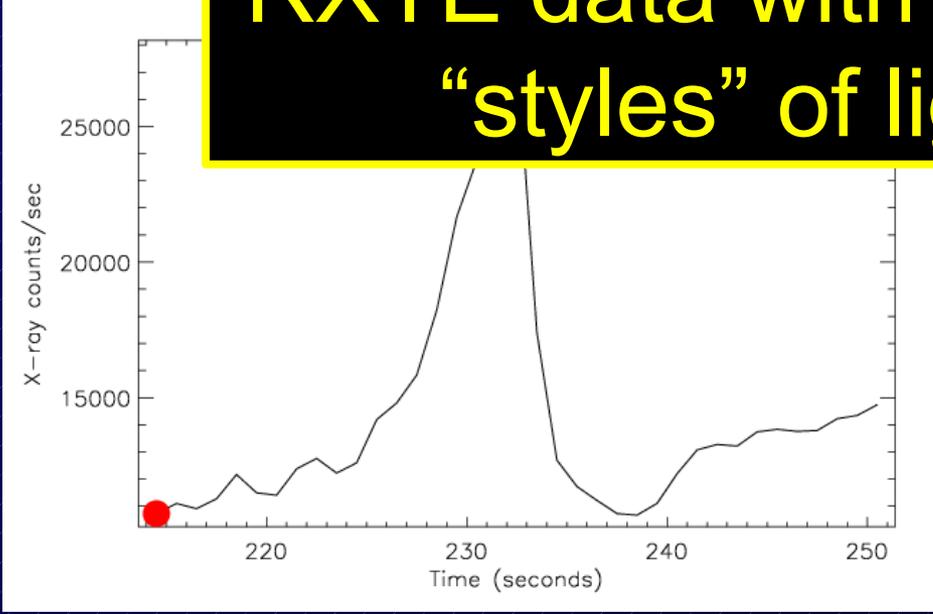
Observations

GRS 1915+105

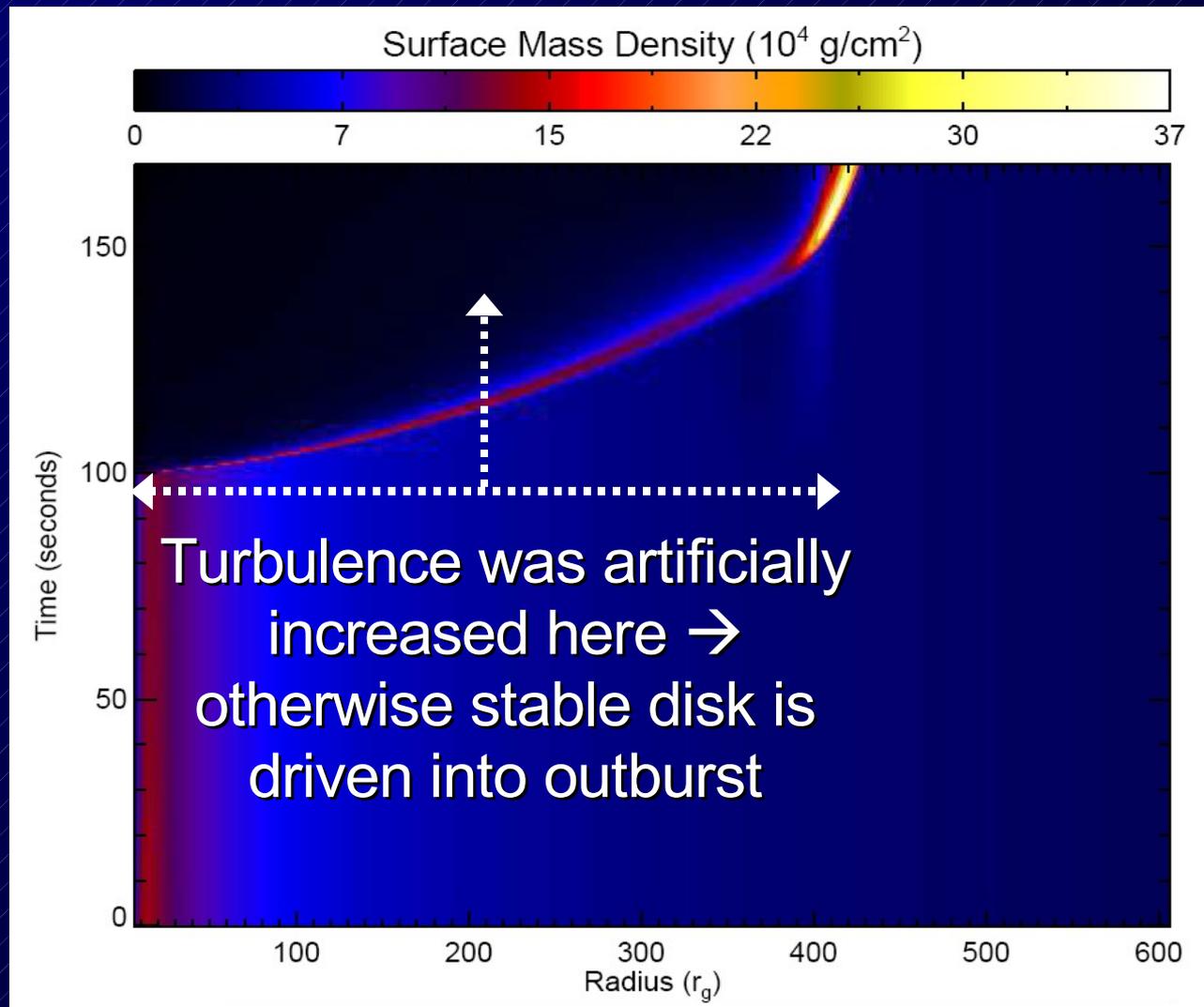
(Eikenberry et al. 1998; Rothstein et al. 2005)



And ~ 1500 more hours of RXTE data with 10-15 different “styles” of light curves



What if We Treat Turbulence as a Time-VARIABLE Parameter?



Community-Based Websites

- arXiv.org
- Wikipedia
- Amazon (user reviews)
- Facebook, MySpace (social networking)
- For Educators???

Hundreds of education sites, but most promote a “one-way” exchange of information only

Community-Based Websites

- arXiv.org

- V
 - A
 - F
- This is an important issue for anyone doing public outreach work with teachers or schools

- For Educators???

Hundreds of education sites, but most promote a “one-way” exchange of information only

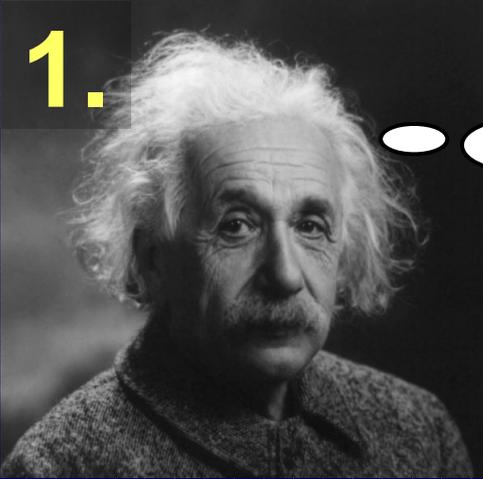
What Key Features Does the Website Need?

- Teachers are busy and don't have time to write (or even read) long lesson plans
- The basic unit of traffic has to be smaller than a full lesson plan
- “Plums”: small nuggets of teaching material that can be mixed, matched and personalized



The “Wikipedia Model”: Good for Teachers?

1.



Albert Einstein

Hm... I think I'll write a classroom resource about the precession of Mercury's orbit.

Why should he bother?

2.

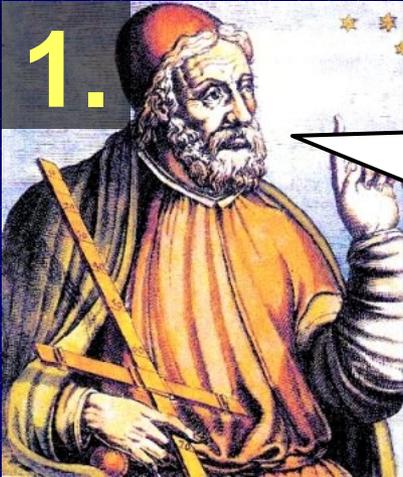


Ptolemy

I sure hope I can find something on this website to help teach my students about Mercury's orbit!

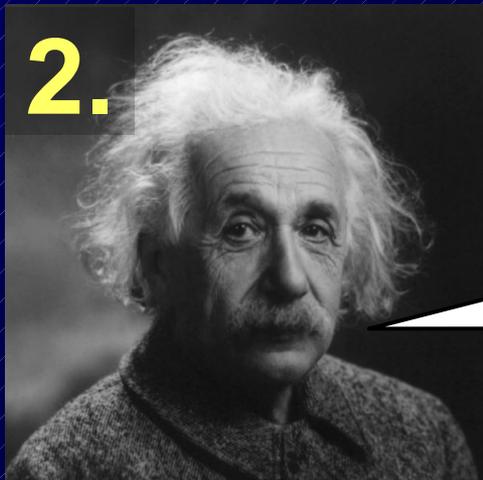
Needs to get lucky!

What if We Switch Things Around?



Ptolemy

I'm looking for some ideas on how to teach my students about Mercury's orbit. It's really confusing to me!



Albert Einstein

I think I have just what you're looking for, Ptolemy. I'll post it now. Good luck!

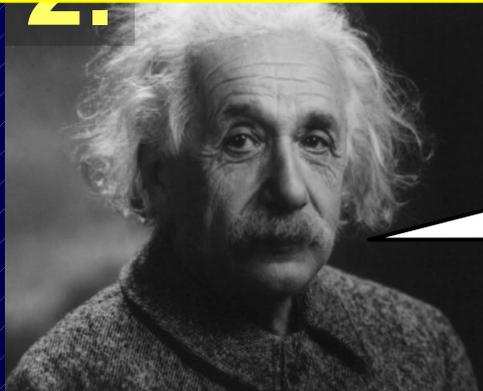
What if We Switch Things Around?



Pto

I'm looking for some ideas
on how to teach my

Combine with social networking
features to let people see what
their trusted colleagues have
posted → “the guilt factor”



Albert Einstein

I think I have just
what you're looking
for, Ptolemy. I'll
post it now. Good
luck!



edplum

Hoping to launch in early 2007.

Sign up to be notified at

edplum.org