

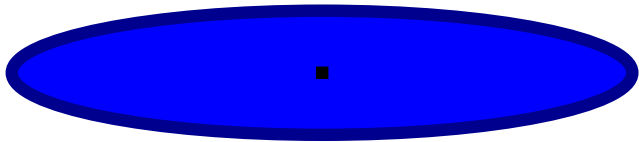
Zooming in on the Central Regions of a radio-loud AGN – 3C120

by Anne M. Lohfink

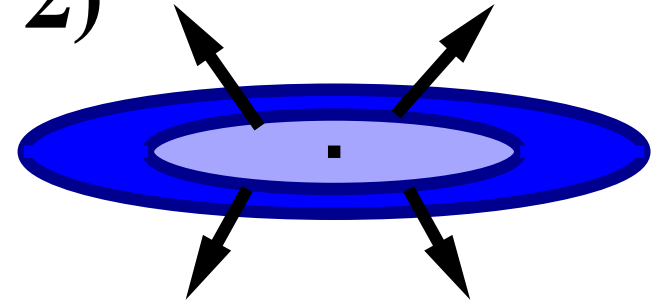
Chris Reynolds (UMCP), Svetlana Jorstad (BU), Alan Marscher (BU),
Eric Miller (MIT), Margo Aller (UM), Hugh Aller (UM), Laura Brenneman (CfA),
Andy Fabian (IoA Cambridge), Jon Miller (UM), Richard Mushotzky (UMCP),
Mike Nowak (MIT), Francesco Tombesi (UMCP)

The jet cycle – How we think jets form.

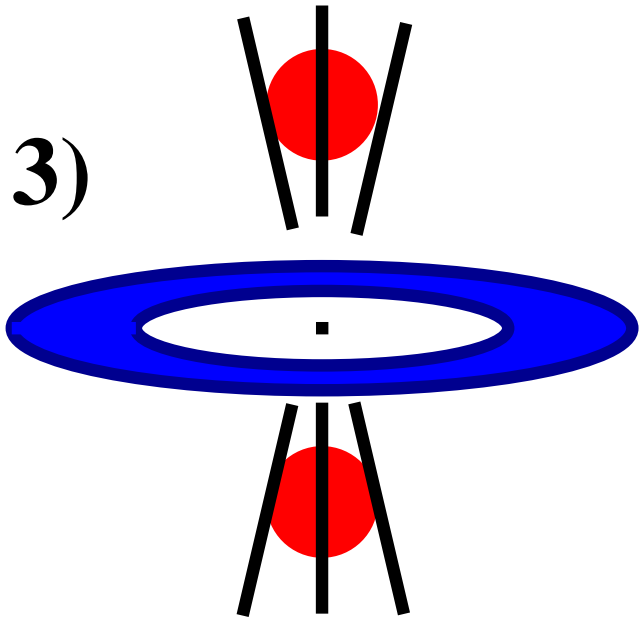
1)



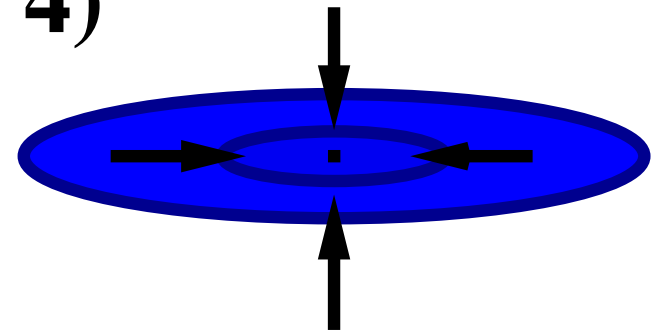
2)



3)



4)

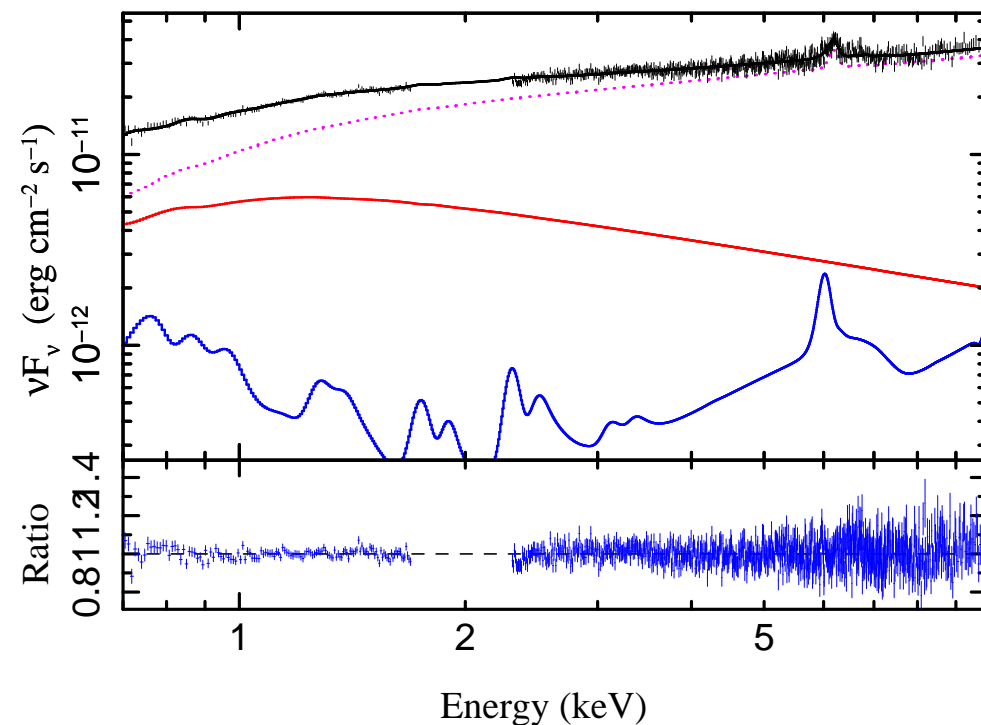


Spectral Modeling

Data: one old *XMM* pointing, 2 **new** *Suzaku* datasets

From previous data: **Jet or blurred ionized reflection?**

- Hybrid model describes data at any given time.
- Requires recessed disk for *Suzaku* ($\sim 39 R_g$)
- Indications for light bending in case of the *XMM* pointing.
- Supported by X-ray/UV correlation
 \Rightarrow **How can we test this?**



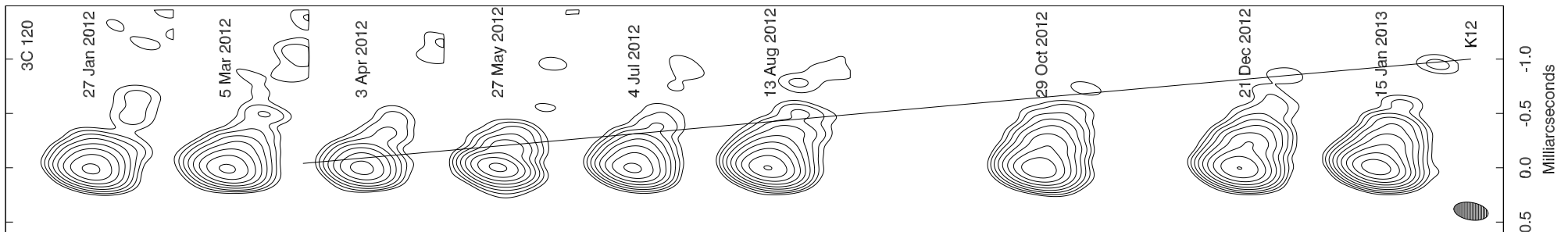
Test 1: Put results in context in jet cycle!

all Suzaku data: Rising X-ray flux \Rightarrow Disk is filling up?

XMM data: Flux at peak \Rightarrow Disk is full?

Test 2: Radio observations?

\Rightarrow **Disk recession consistent with jet cycle picture!**



- New jet knot ejected in March 2012!
- apparent speed: $2.6 \pm 0.5c$

\Rightarrow **Radio supports X-ray results!**

Summary

1. To describe X-ray spectra both jet component as well as blurred ionized reflection required.
2. Disk is recessed at certain times.
3. Jet formation seems to be linked to disruption of inner accretion disk.
4. X-ray flux trends & radio supports X-ray conclusions!

⇒ Conclusions can be tested with newly taken *XMM/Nustar* observations!