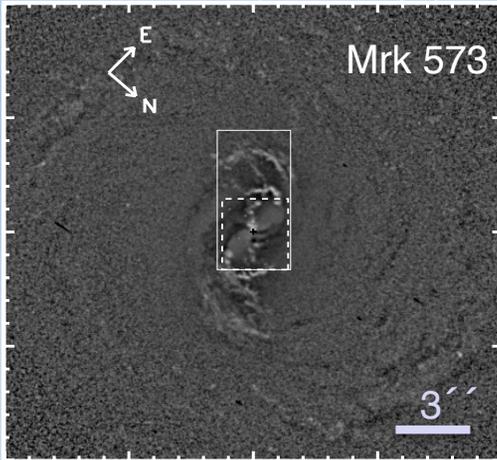


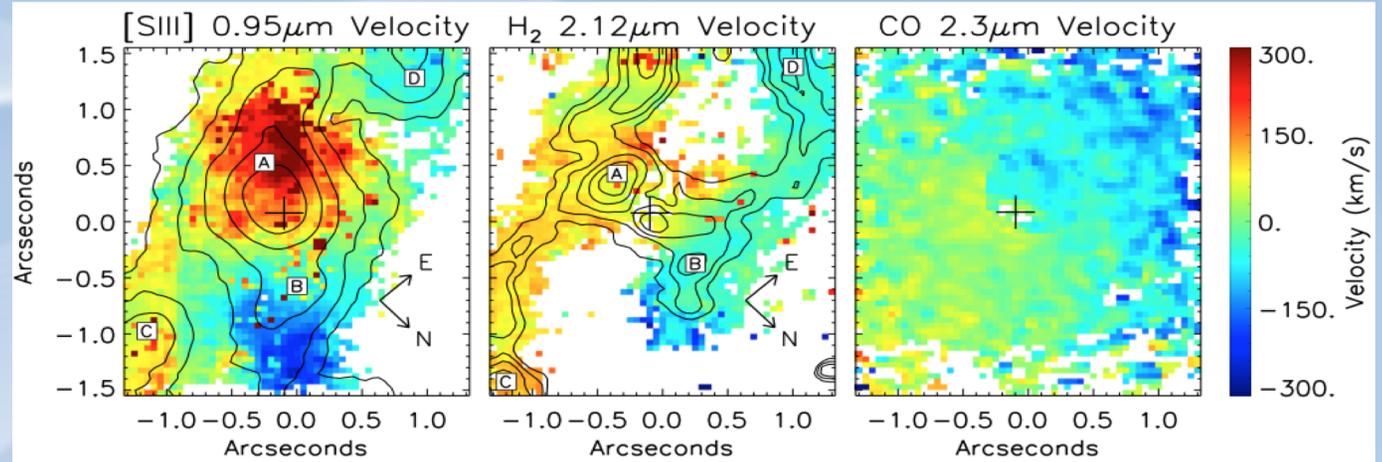
Feeding and Feedback in Nearby AGN Narrow-Line Regions (NLRs)

(Crenshaw, Fischer, Gnilka, Revalski, Dashtamirova, Kraemer, Schmitt)

HST F606W (1" = 340 pc)



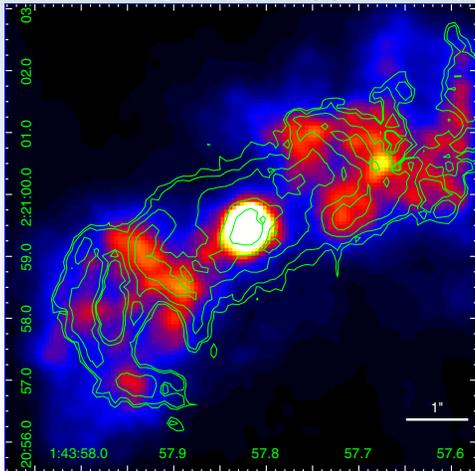
Gemini NIFS velocity maps (Fischer+ 2017, ApJ, 834, 30)



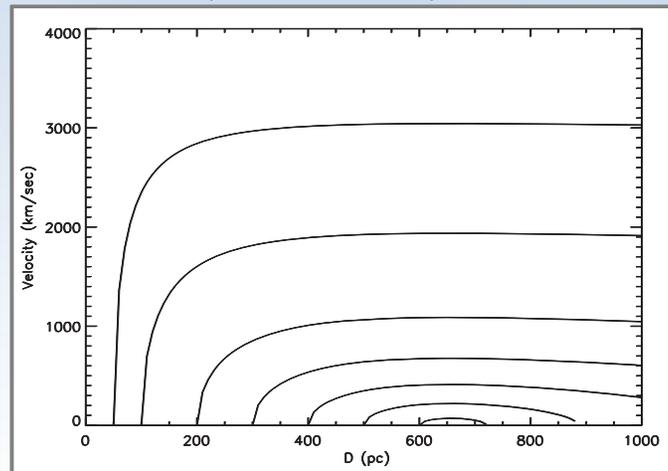
1) Nuclear dust spirals are ionized to form the NLR.

2) Mrk 573 NLR shows *in situ* acceleration (A,B) of ionized and molecular gas from the rotating (C,D) dust/molecular spirals. Outflows extend to < 1 kpc.

Chandra, [O III] (Paggi+ 2012)



(Fischer+ 2017)



3) X-ray match suggests rapid phase transition.

4) Radiative driving + gravity indicate NLR clouds travel only 10s of pcs.

Conclusions:

Ambient gas (e.g., dust spiral) is ionized and radiatively driven out to < 1 kpc in the host galaxies of moderate-luminosity AGN. Peak outflow rates are $\sim 3 M_{\odot} \text{ yr}^{-1}$ (Revalski+ 2017, 2018). The NLR gas likely transitions from molecular \rightarrow ionized \rightarrow highly ionized gas over tens of pcs.