

followup to doday's conversatiaons

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Thu, Jan 26, 2012 at 2:45 PM

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Here's a great figure layout for the contrast 200, 'ringless' ambient density hydro models

It's really easy to see the profound differences of the P-V diagrams of clumps and jets.

Now here's some really cool news!! The results of the models are also seem applicable to two other prePNe, Hen3-1475 and OH231.8+04.2, both of them part of our HST imaging program.

The EM figure in the upper left (above) is a nearly perfect match to the inner regions of Hen3-1475. However, the observed on-axis P-V diagram from narrow-slit HST STIS observations shows constant velocity and in is in good accord with the jet model. I might add that the Doppler shift of the emission lines along the symmetry axis in Hen3-1475 is an amazing 900 km/s! See the attachments for Hen3-1475 below.

An image OH213.8 looks a lot like the model of a jet in a constant density medium, although the jet itself appears to be hollow and it becomes narrower with distance along the symmetry axis. On the other hand, the CO observations show a linear increase in Doppler shift and distance, characteristic of clumps! See the attachments for OH231.8 below.

Hen3-1475 images and P-V diagrams: The first image is a movie so open it with a browser

Spectrum from Borkowski, Kazimierz J.; Harrington, J. Patrick <u>2001ApJ...550..778B</u> Note: teh ratios of [NII] and [SII] lines in this spectrum is characteristic of shocks at about 100 km/s (in which the low-ionizaiton lines [NII] and [SII] are remarkably bright relative to Halpha.) OH231.8 images and and P-V diagrams:

spectroscopy: Alcolea et al 2002 A&A 373 932 (radio CO observations), The terminal velocities of the CO are +/- 150 km/s. At the tips of the CO outflows there's shocked Halpha.

8 attachments





hen3.cone.gif 56K



PastedGraphic-5.tiff 33K



PastedGraphic-10.tiff 95K



PastedGraphic-4.tiff 296K



PastedGraphic-6.tiff 33K

PastedGraphic-9.pdf 106K

