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Extra knot material from Will for the Alma paper

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ABSTRACT
New material written by Will in 2016 December, describing methodology, results, and interpretation from new knot measurements and fitting.

Key words: knots – knots – and more knots!

1 KNOT CLASSIFICATION

2 KNOT ANALYSIS

REFERENCES

Weilbacher P. M., et al., 2015, A&A, 582, A114

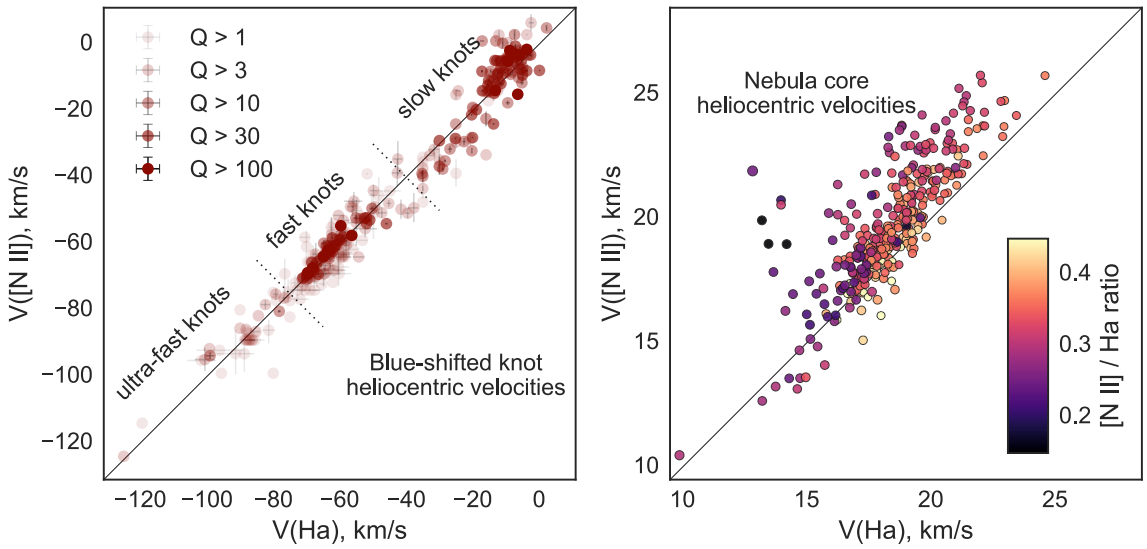

Figure 1. Velocity measurements for the blue-shifted knots (left panel) and nebular core (right panel).

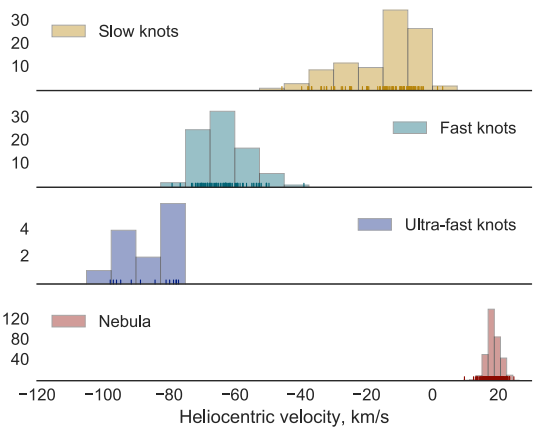

Figure 2. Histograms of blue-shifted knot velocities according to velocity class (top three panels), compared with histogram of mean velocity of the nebular line core at the knot positions (bottom panel).

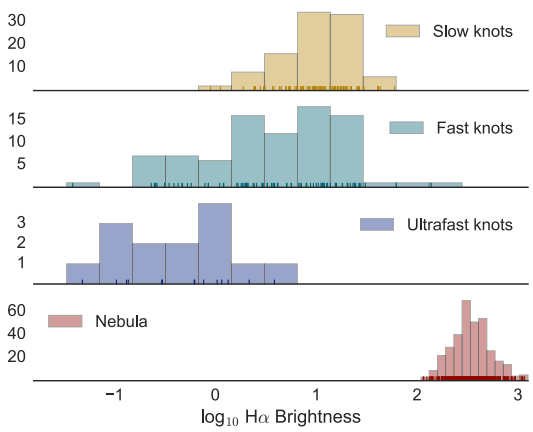

Figure 3. Histograms of blue-shifted knot Hα brightnesses according to velocity class (top three panels), compared with histogram of Hα brightness of the nebular line core at the knot positions (bottom panel).

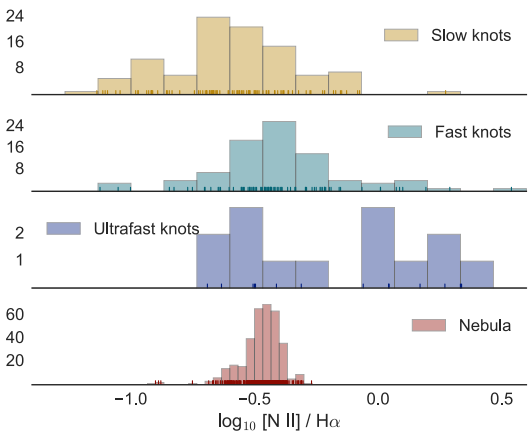

Figure 4. Histograms of blue-shifted knot [N II]/Hα line ratios according to velocity class (top three panels), compared with histogram of [N II]/Hα line ratio of the nebular line core at the knot positions (bottom panel).

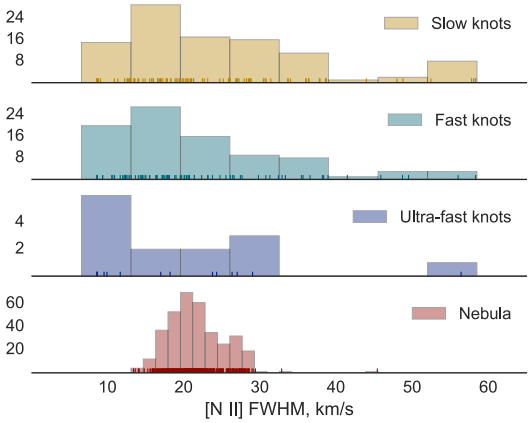

Figure 5. Histograms of blue-shifted knot [N II] FWHM line widths according to velocity class (top three panels), compared with histogram of [N II] FWHM line width the nebular line core at the knot positions (bottom panel).

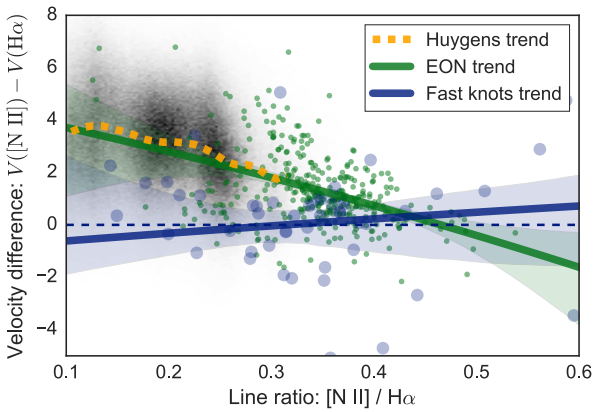

Figure 6. Correlation between [N II]–Hα velocity difference, ΔV, versus line ratio, $R_{[\mathrm{N\,II}]}$, for different datasets. The *grayscale cloud* shows the inner Huygens region of the nebula, obtained from $N \approx 2.5 \times 10^6$ pixels of integral field spectroscopy data from the VLT-MUSE instrument (Weilbacher et al. 2015), where the *orange dashed line* indicates the trend, obtained by averaging the ΔV values within $R_{[\mathrm{N\,II}]}$ bins of width 0.01. *Blue points* show the results for the best-measured knots in the "fast" velocity class (restricted to [N II] line width $< 30\,\mathrm{km\,s^{-1}}$, $N = 68$ knots), while the *blue line* indicates the best-fit quadratic trend, with 95% confidence interval shown by the *pale blue band*. *Green points* show results for the low-velocity line core of the western Extended Orion Nebula (EON) from sample positions corresponding to all of our knot measurements ($N = 351$ positions), with quadratic trend and 95% confidence interval shown by *green line* and *pale green band*, respectively. For both datasets from the current study, we have added $1\,\mathrm{km\,s^{-1}}$ to all the [N II] in order to force an average $\Delta V \approx 0$ for the fast knots. See text for discussion.