NEUTRAL ISM, LYMAN-ALPHA AND LYMAN-CONTINUUM IN NEARBY STARBURST HARO 11[1]

T. Emil Rivera-Thorsen[2, 3] and Göran Östlin[2, 3]

[1]Based on observations Cosmic Origins Spectrograph on the Hubble Space Telescope, program XXXXXX, PI YYYYYYYY

[2]Department of Astronomy, Oskar Klein Centre, Stockholm University, AlbaNova University Centre, SE-106 91 Stockholm, Sweden

[3]Oscar Klein Centre for Cosmoparticle Physics, Department of Astronomy, Stockholm University, Stockholm, Sweden

ABSTRACT

Something something something.

1. INTRODUCTION AND OBSERVATIONS

About Haro 11: Some of the same stuff as in Rivera-Thorsen et al. (in prep.) could be mentioned, with a different emphasis. Star formation rate should be mentioned from Adamo et al. (2010). Population from same and from Micheva et al. (2010). Knots named by Vader et al. (1993), and also mentioned by Kunth et al. (2003). It's an LBA (Hoopes et al. 2007), and an LAE analog (Hayes et al. 2007; Leitet et al. 2011). Knot C a strong Lyα emitter (Hayes et al. 2007), and also a LyC emleaker [Bergvall et al. (2006); Leitet2011]. Kinematics, it's a merger (Östlin et al. 1999, 2001, 2015). More weight on the Lyman-α escape thing, and LyC. Mention Lyα escape and the histrory here, too? References:

2. ANALYSIS

Bla bla bla

3. DISCUSSION AND CONCLUSIONS

Bla bla bla

REFERENCES

Adamo, A., Östlin, G., Zackrisson, E., et al. 2010, MNRAS, 407, 870

Bergvall, N., Zackrisson, E., Andersson, B.-G., et al. 2006, A&A, 448, 513

Hayes, M., Östlin, G., Atek, H., et al. 2007, MNRAS, 382, 1465

Hoopes, C. G., Heckman, T. M., Salim, S., et al. 2007, ApJS, 173, 441

Kunth, D., Leitherer, C., Mas-Hesse, J. M., Östlin, G., & Petrosian, A. 2003, ApJ, 597, 263

Leitet, E., Bergvall, N., Piskunov, N., & Andersson, B.-G. 2011, A&A, 532, A107

Micheva, G., Zackrisson, E., Östlin, G., Bergvall, N., & Pursimo, T. 2010, MNRAS, 405, 1203

Östlin, G., Amram, P., Bergvall, N., et al. 2001, A&A, 374, 800

Östlin, G., Amram, P., Masegosa, J., Bergvall, N., & Boulesteix, J. 1999, A&AS, 137, 419

Östlin, G., Marquart, T., Cumming, R. J., et al. 2015, A&A, 583, A55

Sandberg, A., Östlin, G., Hayes, M., et al. 2013, A&A, 552, A95

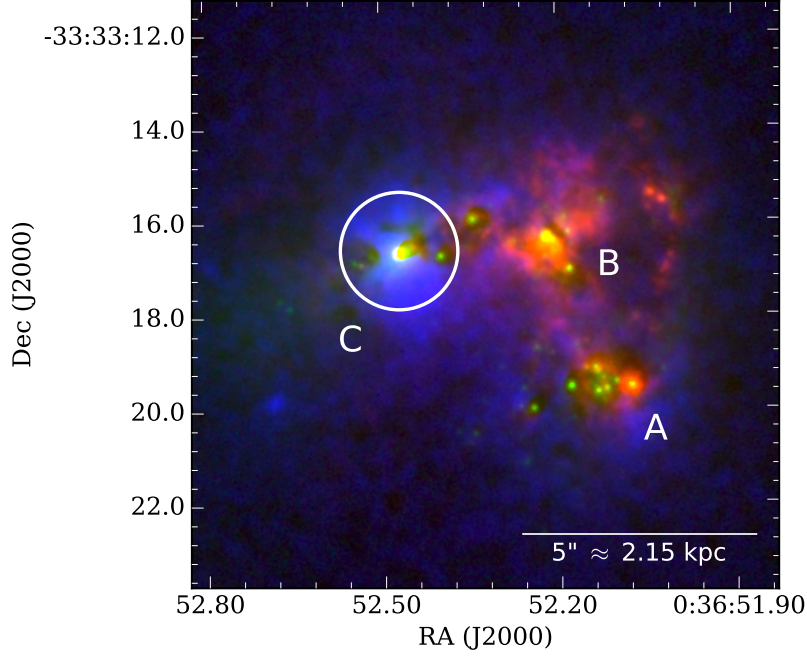Vader, J. P., Frogel, J. A., Terndrup, D. M., & Heisler, C. A. 1993, AJ, 106, 1743

Figure 1. Approximate coverage of the COS aperture. The aperture, which was centered on the supercluster in knot C, has a diameter of 2.5 ″
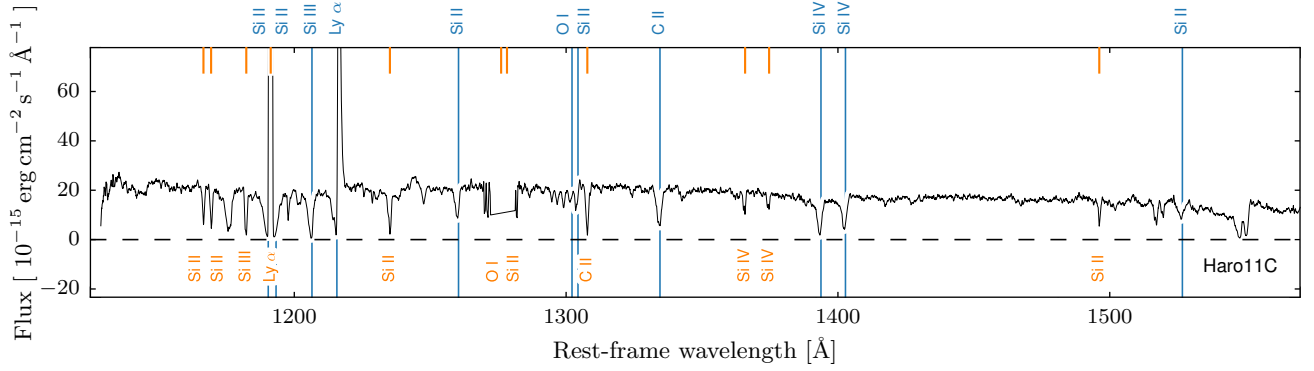

Figure 2. Full spectrum in restframe wavelength of Haro 11 C. Redshift adopted from Sandberg et al. (2013). Orange lines denote Milky Way absorption, while blue lines denote absorption internal to the target.
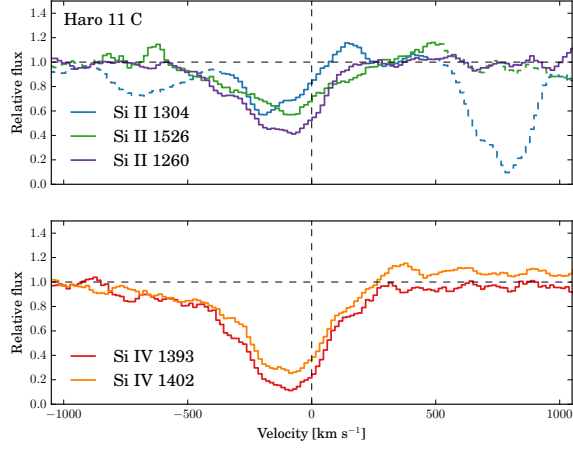
Figure 3. The Si II (**upper**) and Si IV (**lower**) profiles included in this study.
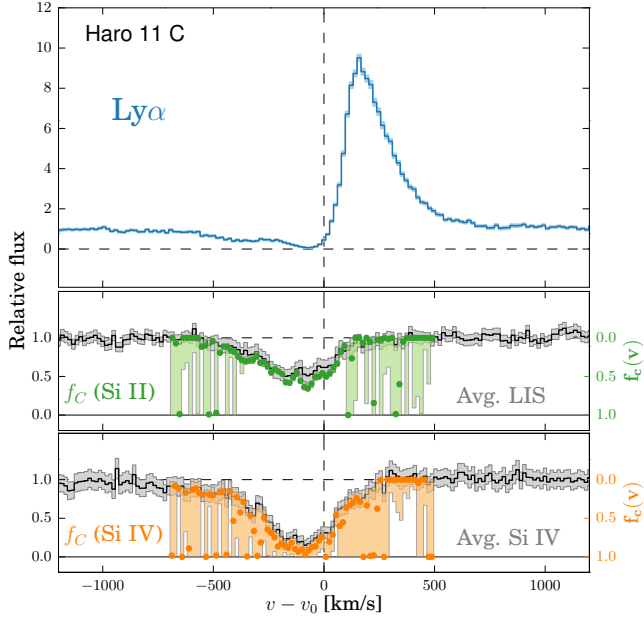

Figure 4. **Upper panel**: Lyα profile of Haro 11 C, in approximate units of the surrounding continuum level. Full line is the measured values smoothed by a 5 px. flat kernel; surrounding shading encloses the ±1σ error band. **Middle panel**: Black steps show the averaged, LIS line profile, smoothed by a 5px kernel. Surrounding gray shading denotes the ±1σ confidence band. **Lower panel**: Same as middle panel, but for the Si IV transitions.