

Raman scattering in a massive young star in the Small Magellanic Cloud

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Abstract

I present the first detection of Raman-scattered wings to the H α line in a massive young stellar object (mYSO)

Keywords: Atomic physics; Radiative transfer; Photodissociation regions

1. INTRODUCTION

2. OBSERVATIONS

3. RESULTS

4. CONCLUSIONS

¹ Thank you.

Facilities: VLT:Yepun (MUSE); VLA

REFERENCES

Gouliermis, D. A., Chu, Y.-H., Henning, T., et al. 2008, ApJ, 688,
1050

Whelan, D. G., Lebouteiller, V., Galliano, F., et al. 2013, ApJ, 771,
16

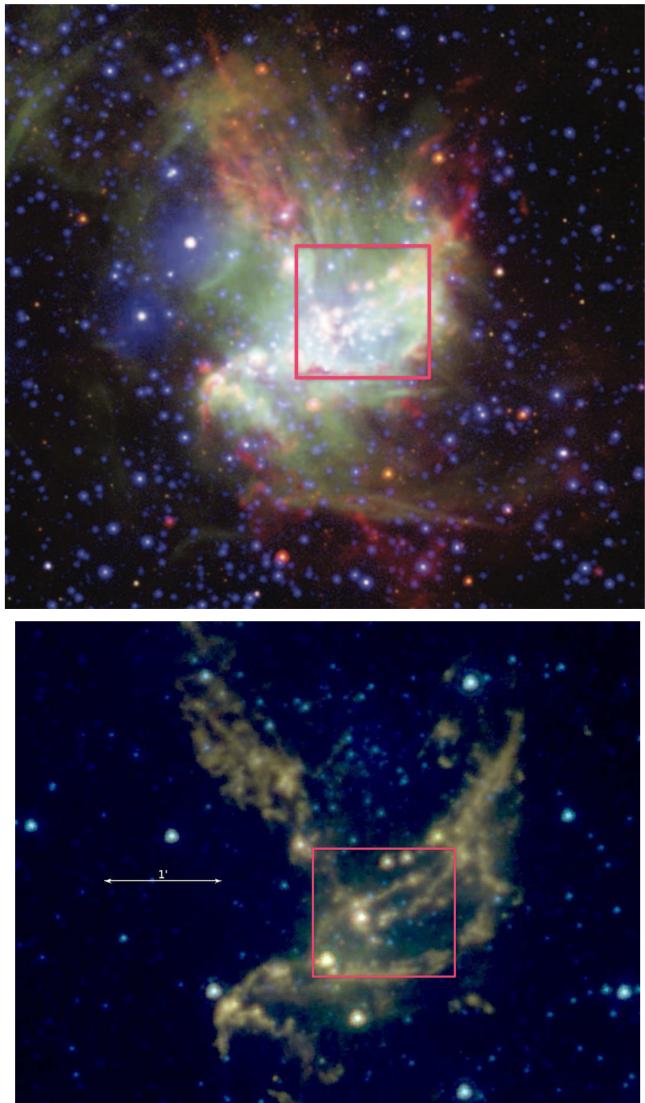


Figure 1. MUSE field of view (red box) shown superimposed on (a) a composite optical/X-ray image of the N 66/NGC 346 region from Gouliermis et al. (2008) and (b) a Spitzer mid-infrared image (Whelan et al. 2013).

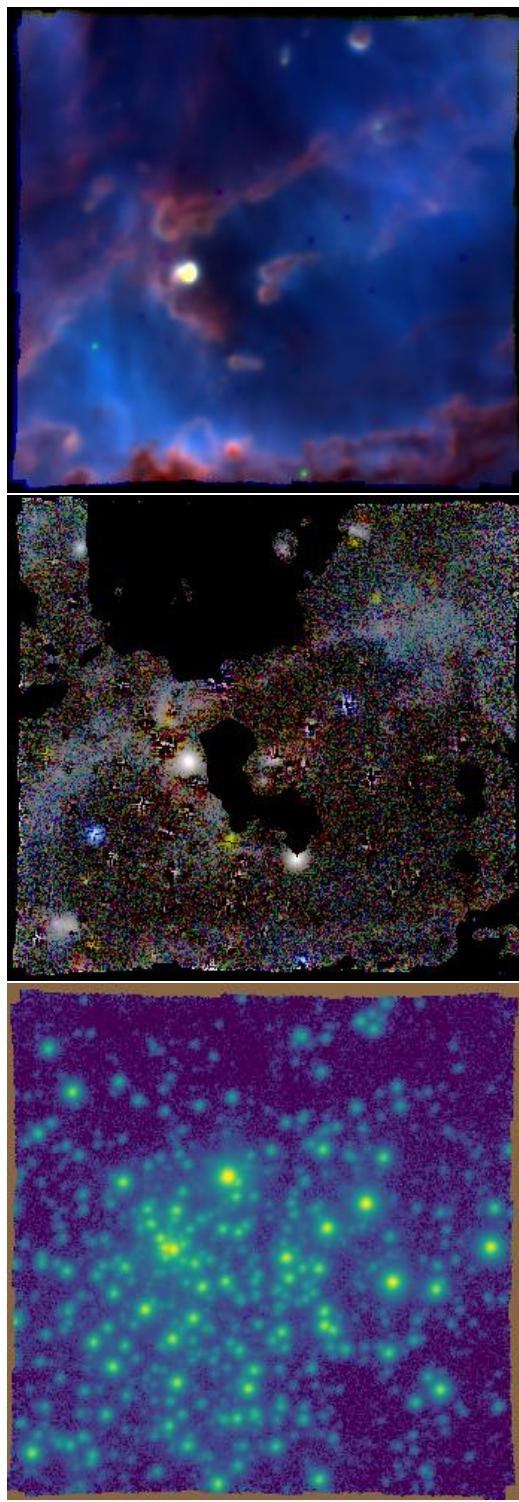


Figure 2. (a) Color composite emission line map: [S II], H α , [O III]. (b) Color composite Raman wing map (c) Continuum map.

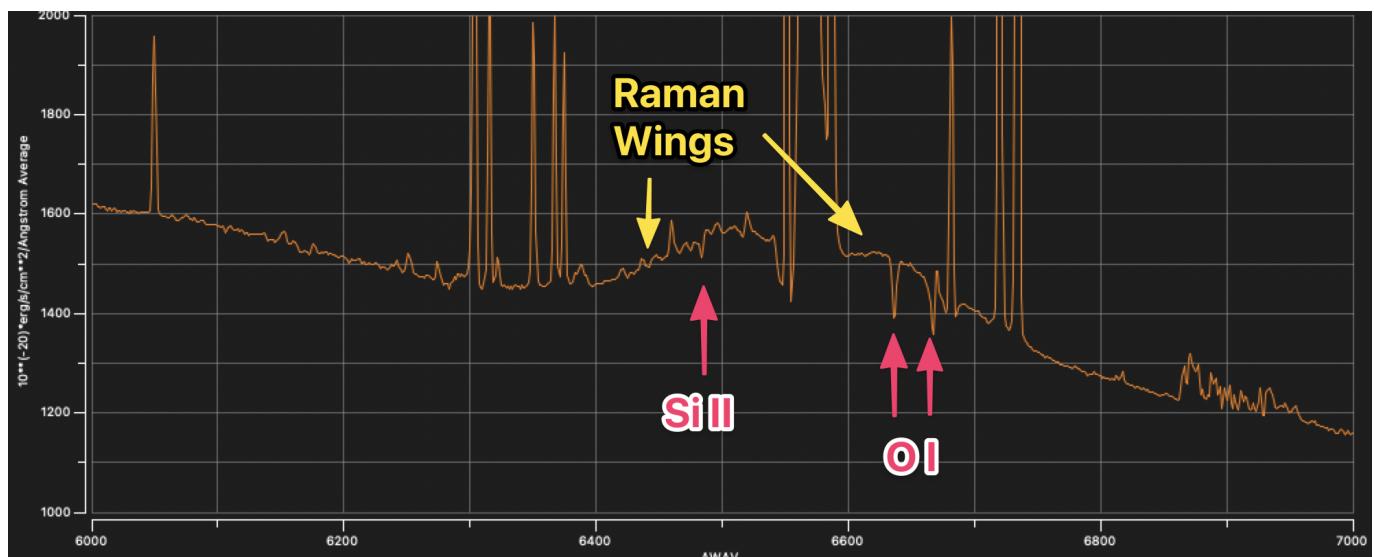


Figure 3. The actual spectrum

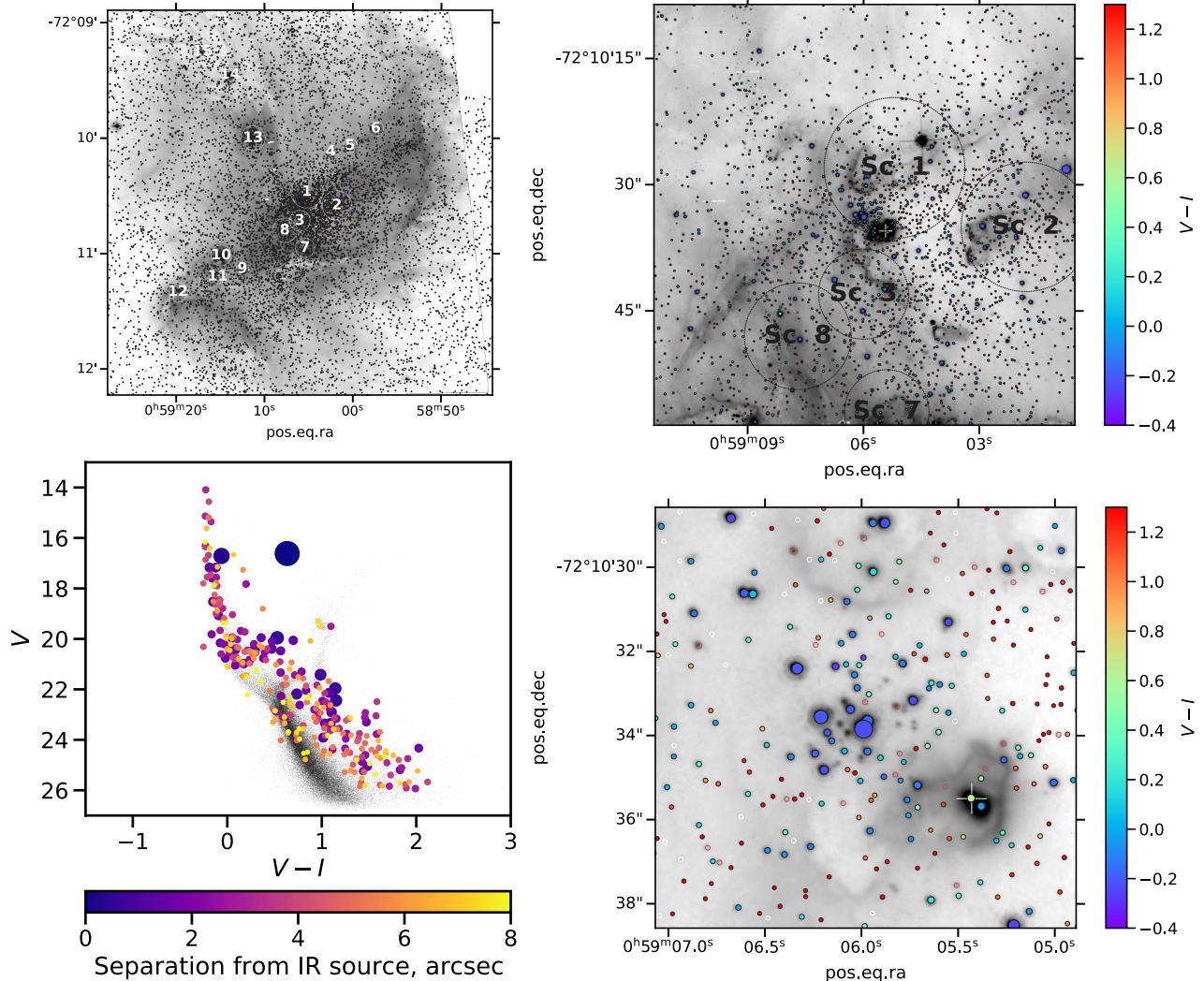


Figure 4. Hierarchical structure of the NGC 346 star cluster.