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Erratum: "GASP. VII. Signs of Gas Inflow onto a Lopsided Galaxy" (2018, ApJ, 852, 94)

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After the published paper was accepted, and during the preparation of the proof, an issue internal to the Publishing team occurred and a preliminary version of the manuscript was sent to the typesetters. As a result, the published paper does not correspond to the accepted version.

While none of the conclusions and trends presented are affected, Figures 9, 10, 11, 13, and 18 in the published paper and the related text need to be amended. Values in the text should be updated accordingly in a few sentences as follows:

In Section 3.5.

The spatial distribution of the ionization parameter for P11695 is presented in Figure 1. It is generally low, ranging from $6.6 < \log(q) < 7.3$. This is in agreement with other galaxies in the GASP survey (Gullieuszik et al. 2017; Poggianti et al. 2017), even though in this case a clear clumpy pattern emerges, while in other galaxies a more smooth distribution is observed. Hα knots tend to have a systematically large value of q: the median value integrated across the entire galaxy is 6.8, while the median value in the Hα knots is 7.

Figure 2 shows that the spatially resolved metallicity ranges between $8.3 < 12 + \log(\mathrm{O/H}) < 9$, with a median value of 8.6. Trends between metallicity and distance from the galaxy center are more clear in Figure 3.

Along B, gradients are symmetric around the 0 position up to 5″, then the south side shows a constant decline and a sudden increase at $r > 7''$, while the north side of the galaxy shows some fluctuations.

The minimum metallicity is $\log(\mathrm{O/H}) \sim 8.4$, while along A and B, for example, it is always $\geqslant$8.5. Finally, the E aperture catches one of the flattest gradients in the galaxy, with metallicity values >8.6 at all distances.

In Section 3.6.

Comparing the luminosity-weighted age and the ionization parameter (Figure 4), we find a clear anticorrelation.

In Section 4.2.4.

Figure 5 shows the distribution of the properties in the knots compared to those in the main body.

In Section 5.

P11695 has low levels of dust ($A_V < 1$ mag), a low ionization parameter value ($\log(q) \sim 6.8$), and a quite young luminosity weighted age ($\log(\mathrm{LWA}) \sim 8.4$).

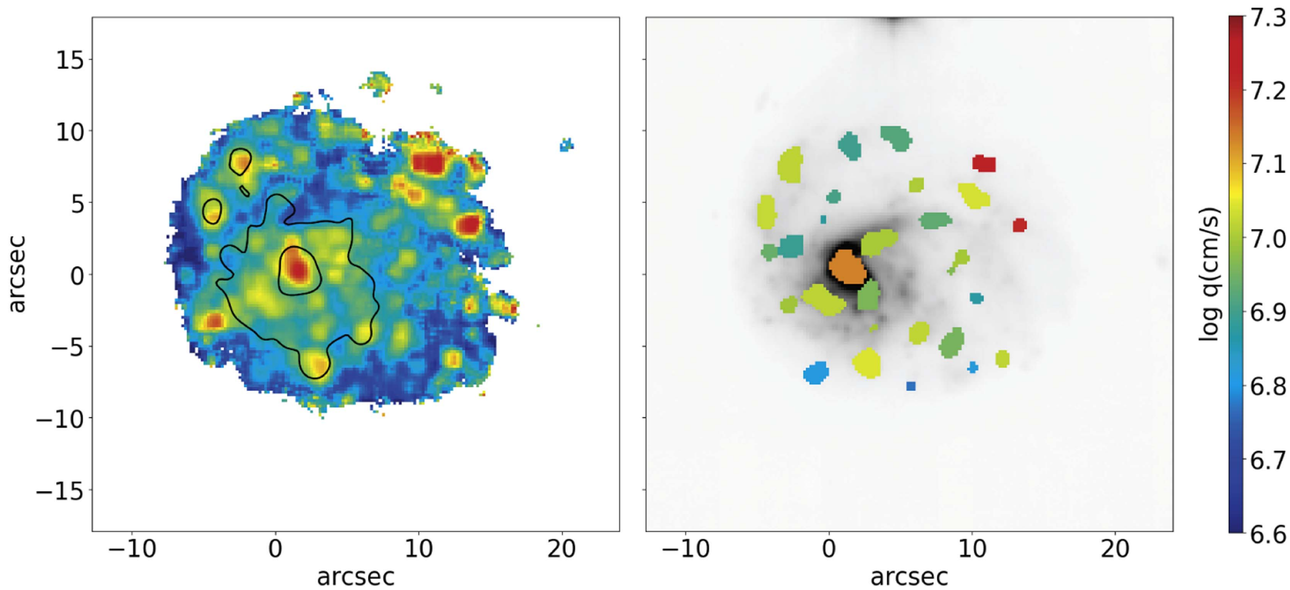

Figure 1. Ionization parameter (q) map. Left: contours represent the original body (see Figure 14 of Vulcani et al. 2018). Right: only regions corresponding to the 29 Hα knots identified in Figure 3 of Vulcani et al. (2018) are color coded according to the median q of each knots. In the background, the white-light image of the galaxy (Figure 2 of Vulcani et al. 2018) is shown, for reference.

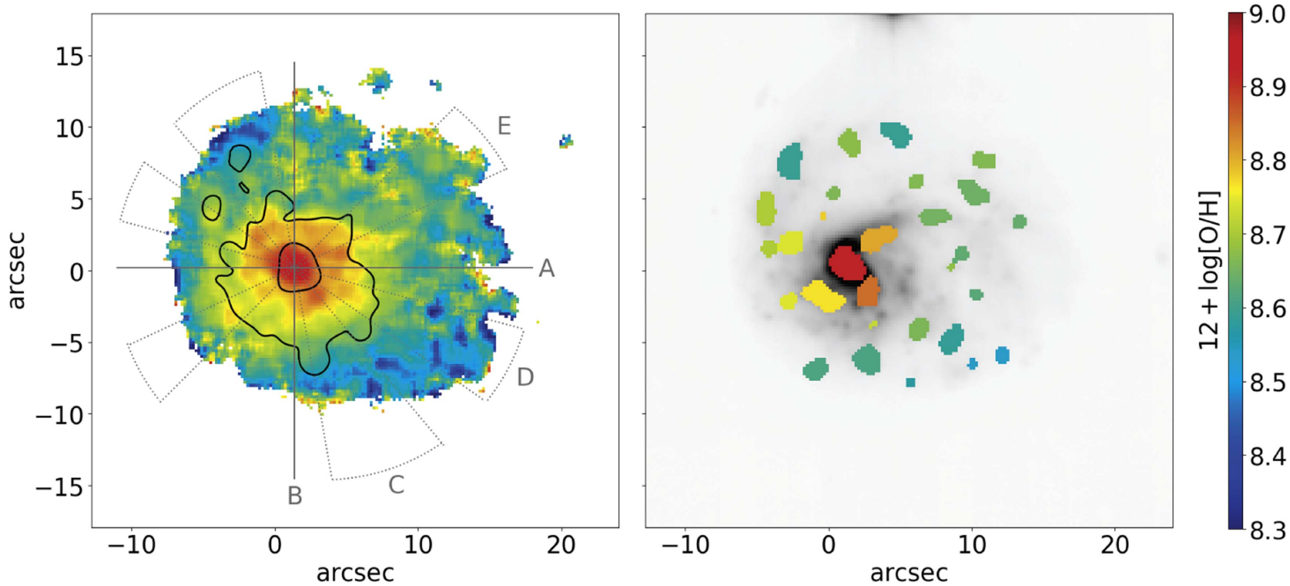

Figure 2. Gas metallicity map. Left: contours represent the original body (see Figure 14 of Vulcani et al. 2018). Slits (A, B) and conic apertures (C, D, E) used to extract metallicity gradients are also shown. Right: only regions corresponding to the 29 Hα knots identified in Figure 3 of Vulcani et al. (2018) are color coded according to the median metallicity of the knots. In the background, the white-light image of the galaxy (Figure 2 of Vulcani et al. 2018) is shown for reference.

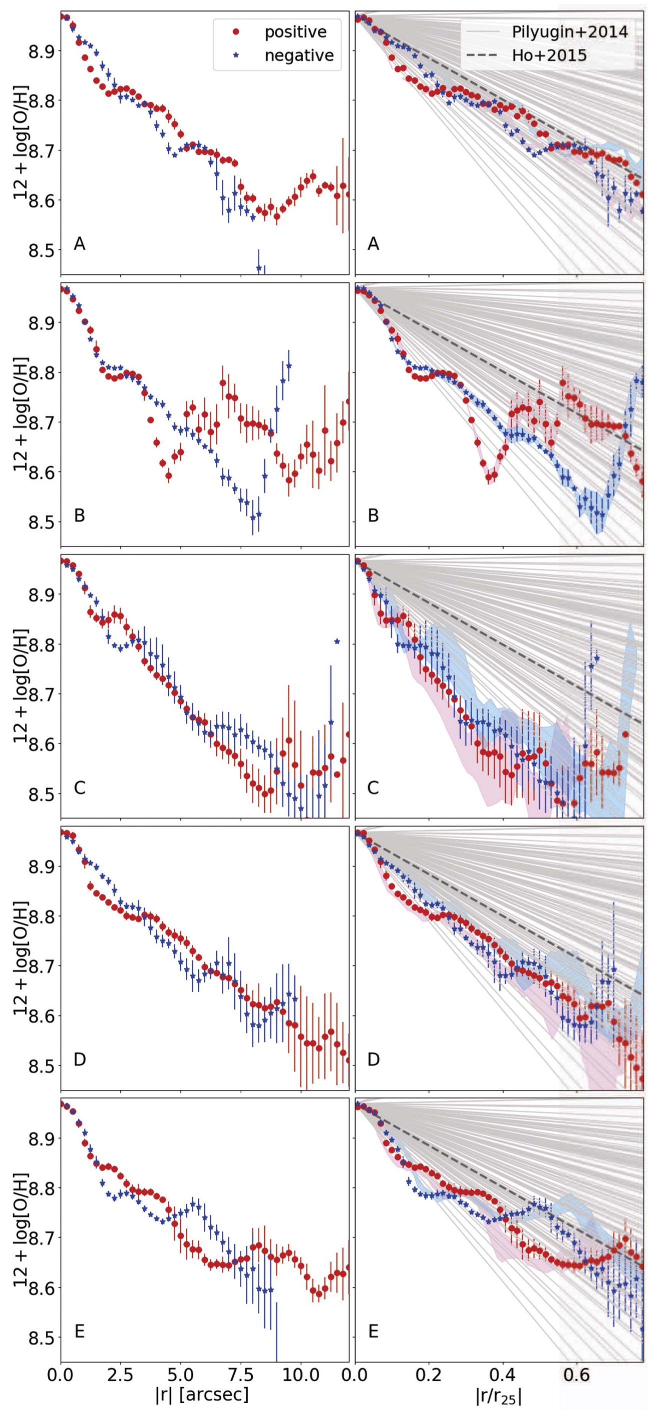

Figure 3. Gas metallicity gradients extracted along the directions (A, B, C, D, and E) shown in Figure 2. Errors represent the standard deviation (σ) computed using the values falling into the apertures. Red points correspond to the side of the slits north and/or west of the center (positive arcseconds), blue points correspond to the side of the slits south and/or east of the center (negative arcseconds). Left: profiles in arcseconds, not deprojected. Right: profiles normalized by a scale radius, all distances are deprojected considering the galaxy inclination and position angle. Shaded areas represent the profiles normalized adopting different scale lengths (see the text for details). Gray lines are from Pilyugin et al. (2014) and Ho et al. (2015).

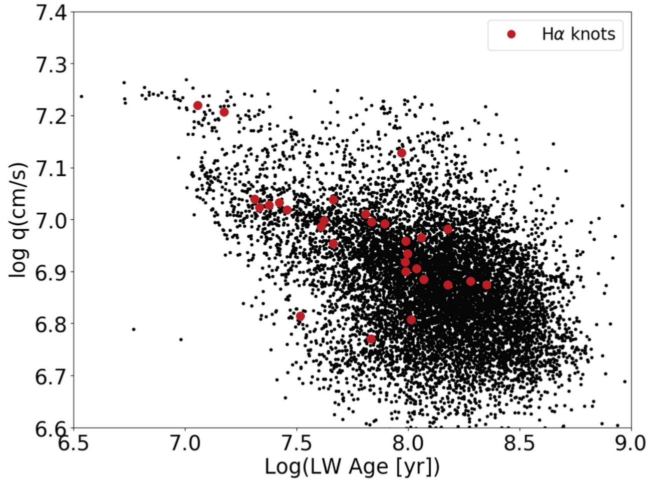

Figure 4. Correlation between the luminosity weighted age and the parameter of ionization. The average values computed in each Hα knot are shown with red circles.

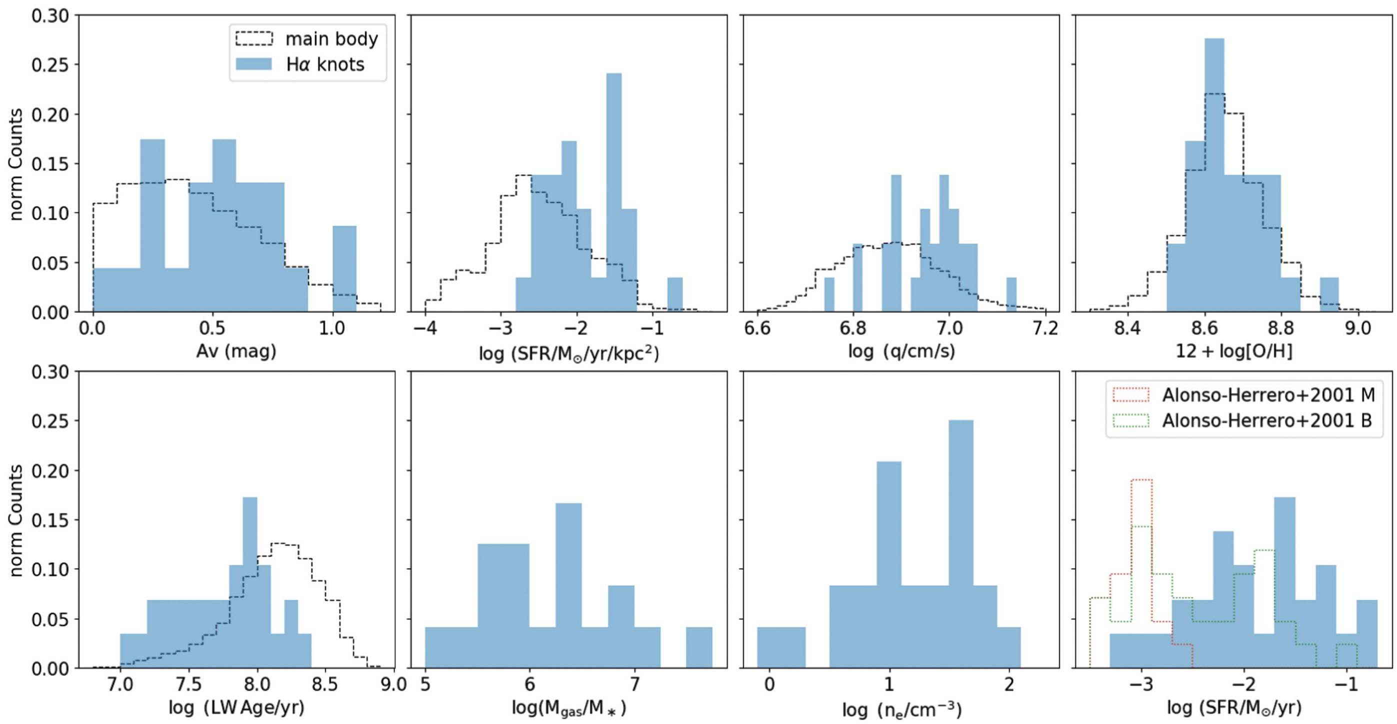

Figure 5. Normalized distribution of the properties of the Hα knots, compared to that of those of the galaxy main body (when meaningful). The A_V, SFR per unit kpc^2, parameter of ionization, metallicity, luminosity weighted age, gas mass, electron density, and SFR are shown. In the bottom right panel, we report for comparison the SFR distributions obtained from the Hα luminosity as measured by Alonso-Herrero & Knapen (2001) for H II regions in nearby galaxies. Estimates using only the brightest (B) and median (M) Hα luminosities are shown.

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References

Alonso-Herrero, A., & Knapen, J. H. 2001, AJ, 122, 1350
Gullieuszik, M., Poggianti, B. M., Moretti, A., et al. 2017, ApJ, 846, 27
Ho, I.-T., Kudritzki, R.-P., Kewley, L. J., et al. 2015, MNRAS, 448, 2030
Pilyugin, L. S., Grebel, E. K., & Kniazev, A. Y. 2014, AJ, 147, 131
Poggianti, B. M., Moretti, A., Gullieuszik, M., et al. 2017, ApJ, 844, 48
Vulcani, B., Poggianti, B. M., Moretti, A., et al. 2018, ApJ, 852, 94