

# GASP I: Gas stripping phenomena in galaxies with MUSE

arXiv:1704.05086

Bianca M. Poggianti (INAF-OaPD), Alessia Moretti, Marco Gullieuszik, Jacopo Fritz, Yara Jaffe, Daniela Bettoni, Giovanni Fasano, Callum Bellhouse, George Hau, Benedetta Vulcani, Andrea Biviano, Alessandro Omizzolo, Angela Paccagnella, Mauro D'Onofrio, Antonio Cava, Y.-K. Sheen, Warrick Couch, Matt Owers

GASP (GAs Stripping Phenomena in galaxies with MUSE)

114 галактик на  $z=0.04-0.07$

В группах и скоплениях разных масс

“jellyfish galaxies” = медузки

Масштабы – до 50-100 кpc ( $>10$  re!)

Изучение состояние выброшенного газа и звездообразования в нем, как функции окружения и массы

MUSE:  $4 \times 675$  sec (rotated 90 deg)

IDL software KUBEVIZ (Fossati et al. 2016)

Отбор кандидатов:

WINGS: multiwavelength survey of 76 clusters

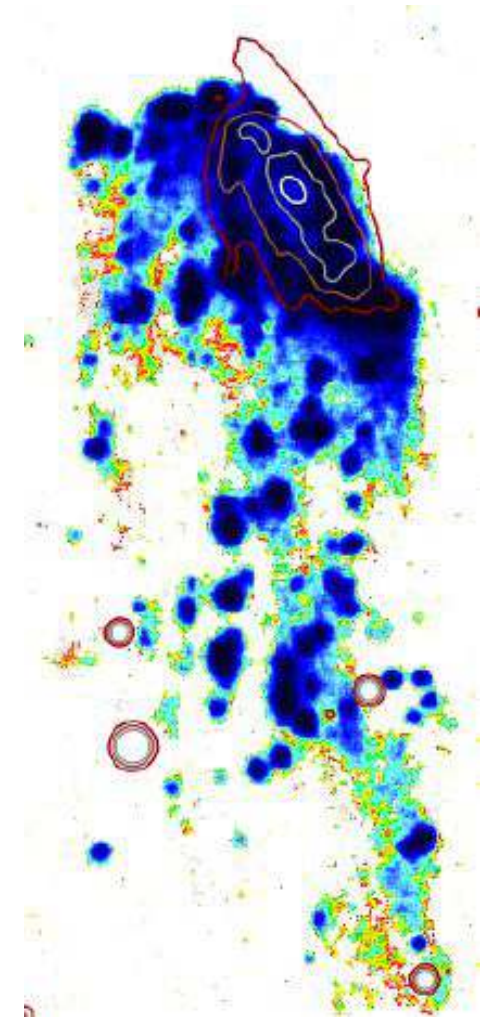
(UBVJK imaging + spectra INT, WHT, UKIRT)

OMEGAWINGS: extension of the WINGS with 1 deg FOV

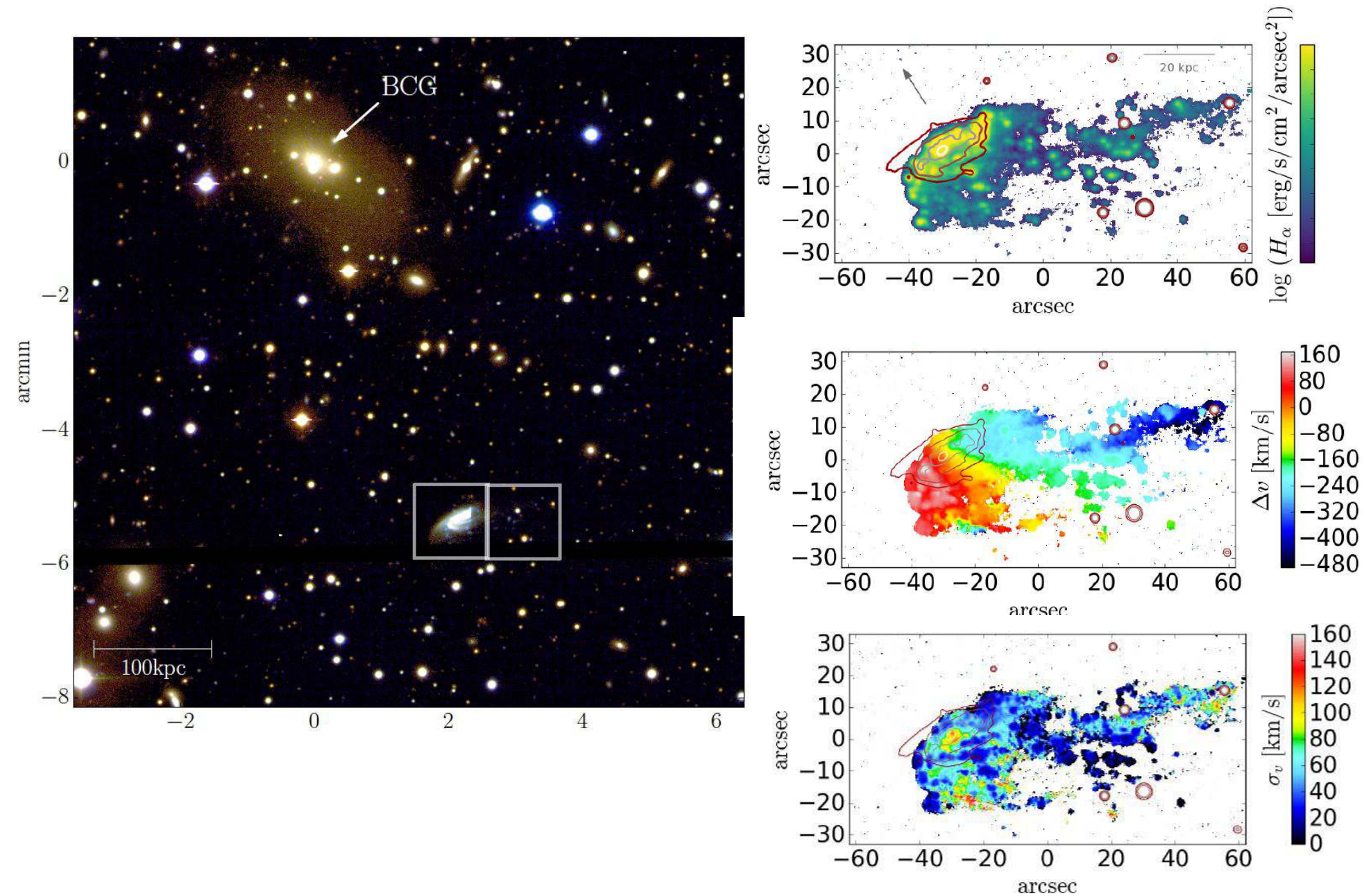
[OmegaCAM@VST](#) + [AAOmega@AAT](#) 18.000 redshifts

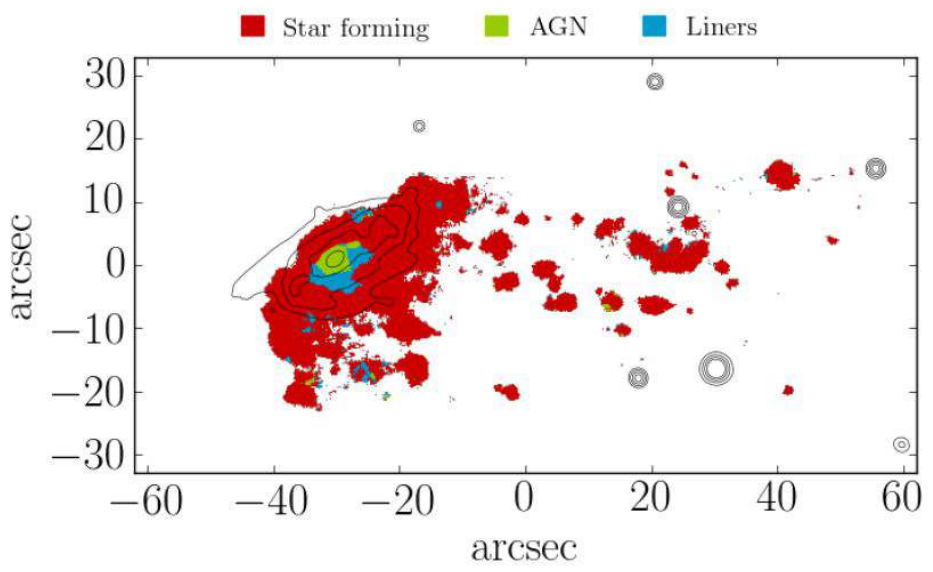
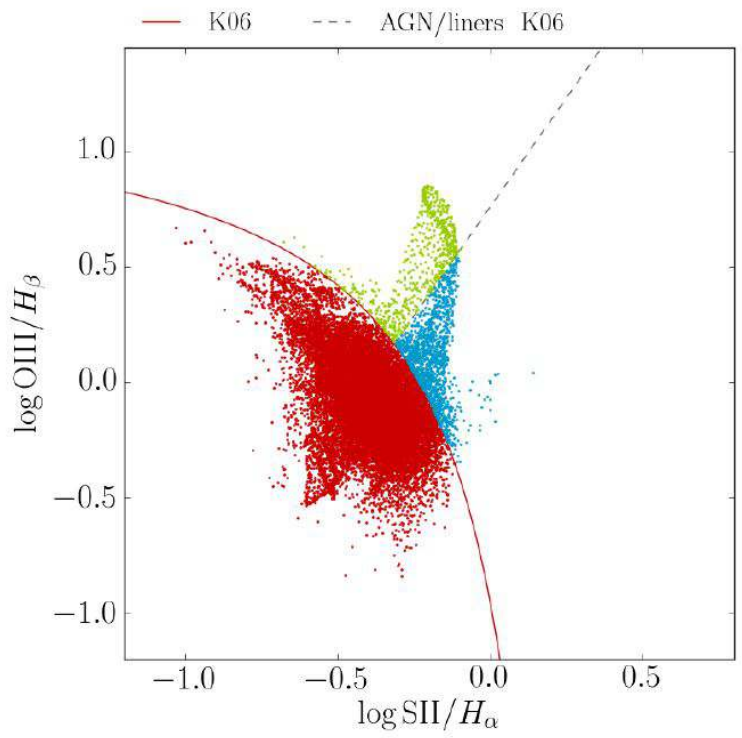
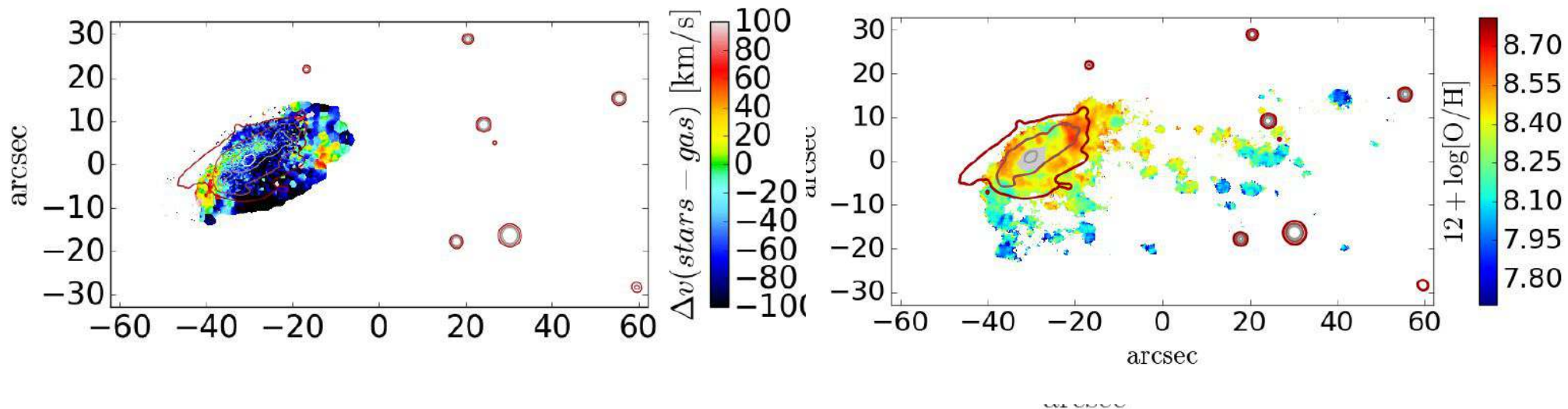
Padova Millennium Galaxy and Group Catalogue:

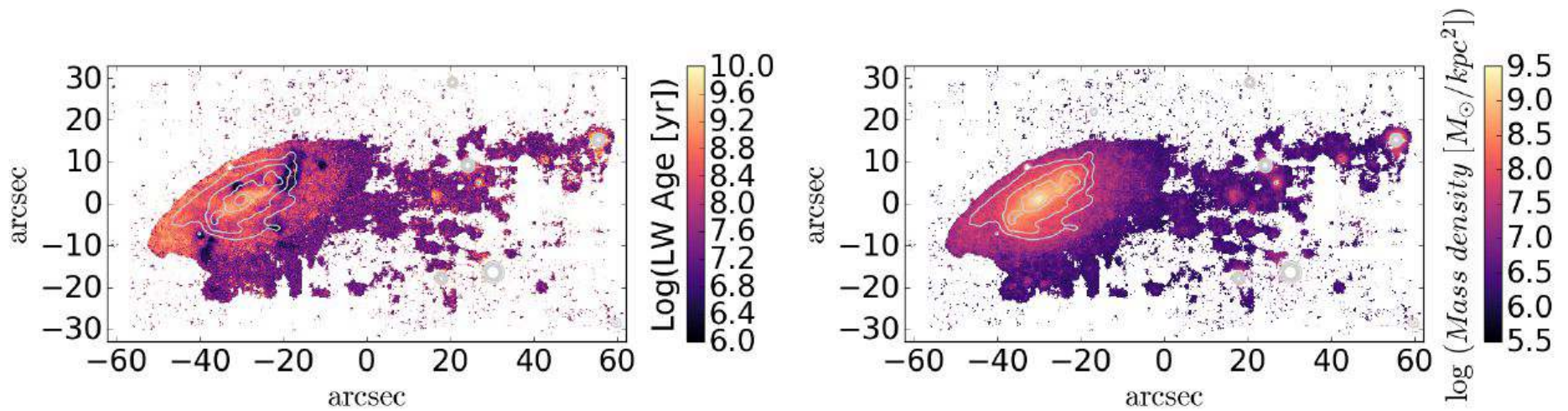
B-band imaging with [WFC@INT](#) + spectra



# JO2066 ( $z=0.0513$ , WINGS J211347.41+022834.9)







Расчет удерживающих сил и лобового давления, выметание возможно, только для  $r > 20$  кпк, что и наблюдается..

Примерно 15% газа покинуло галактику

Ожидают дополнительную информацию о холодном газе:

APEX – CO

JVLA – HI

JO206 - пример массивной галактики под сильной лобовым давлением в маломассивном бедном скоплении

# GASP II. A MUSE view of extreme ram-pressure stripping along the line of sight: kinematics of the jellyfish galaxy JO201

arXiv:1704.05087

C. Bellhouse, Y. L. Jaffe, G. K. T. Hau, S. L. McGee, B. M. Poggianti, A. Moretti, M. Gullieuszik, D. Bettoni, G. Fasano, M. D'Onofrio, J. Fritz, A. Omizzolo, Y.-K. Sheen, B. Vulcani

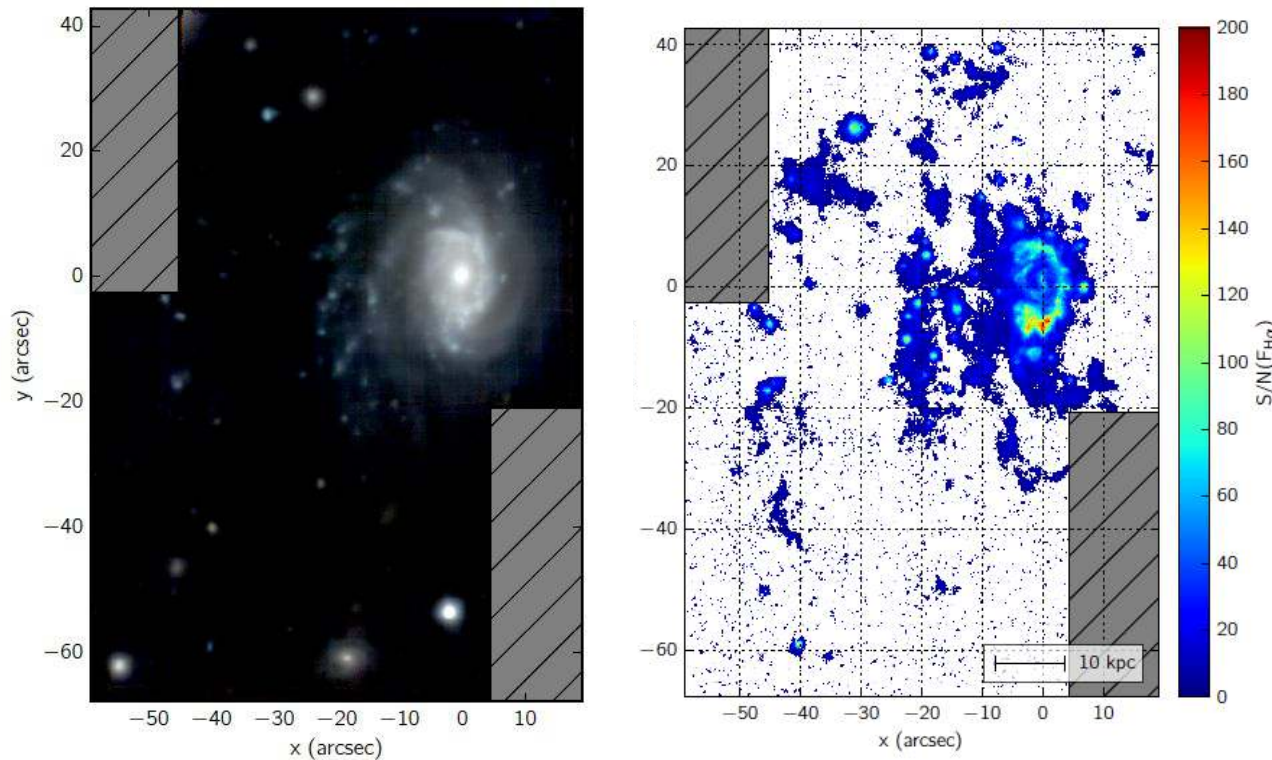


Figure 3. RGB image from JO201 GASP observation produced using 1000Å slices integrated from the datacube (B:5000-6000Å, G:6000-7000Å, R=7000-8000Å). East is to the left and north to the top. A series of bright knots to the east of the galaxy are seen con-

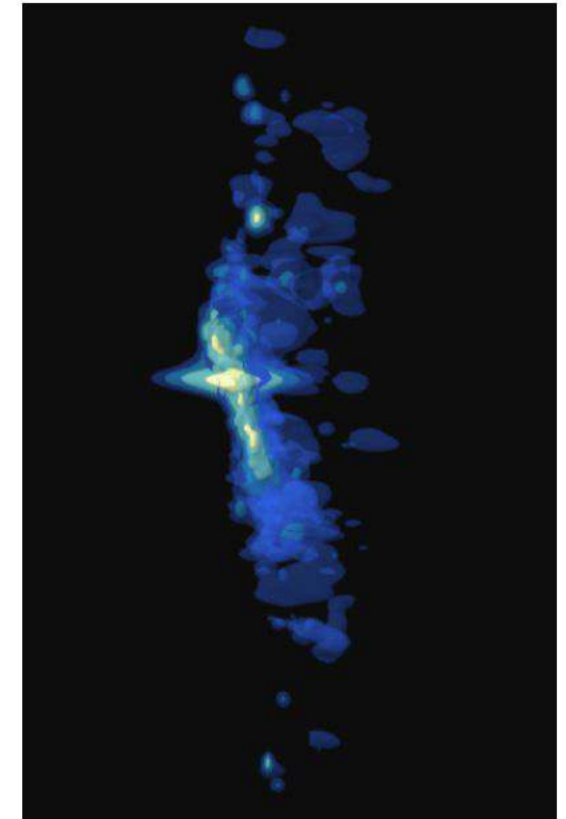
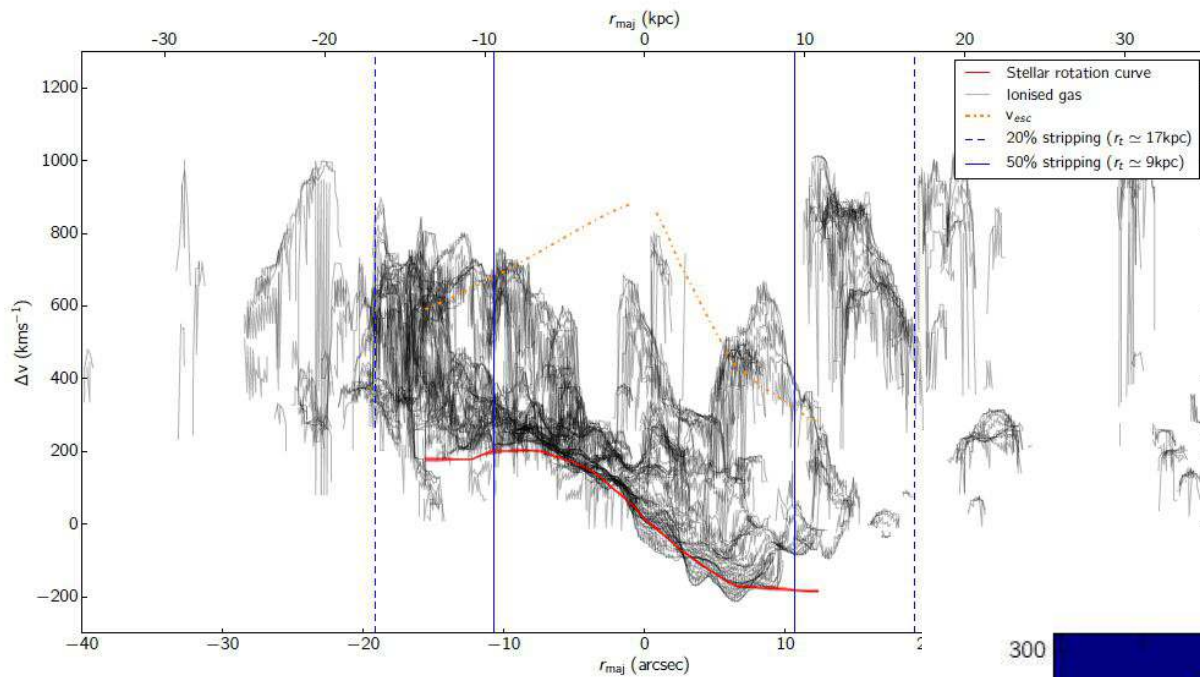


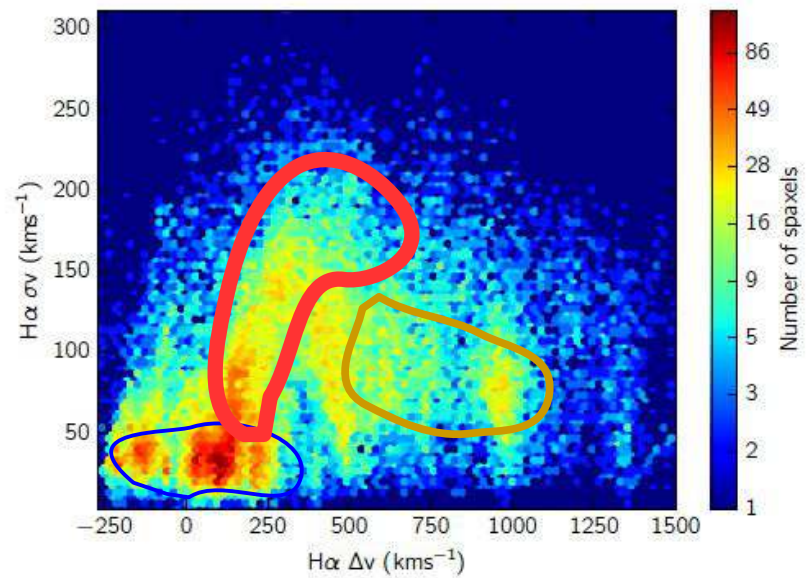
Figure 9. 3D visualisation of H $\alpha$  gas extracted from KUBEVIZ fit produced using the method presented in Vogt et al. (2016a) and Vogt et al. (2016b). X and Y axes show projected distance, with the Z axis representing the wavelength/velocity and linewidth/sigma. Surface



Удар

Охлаждение

Области HII



# GASP III. JO36: a case of multiple environmental effects at play?

arXiv:1704.05088

Jacopo Fritz, Alessia Moretti, Bianca Poggianti, Marco Gullieuszik, Gustavo Bruzual, Benedetta Vulcani, Fabrizio Nicastro, Yara Jaffe', Bernardo Cervantes Sodi, Daniela Bettoni, Giovanni Fasano, Stephane Charlot, Callum Bellhouse, George Hau

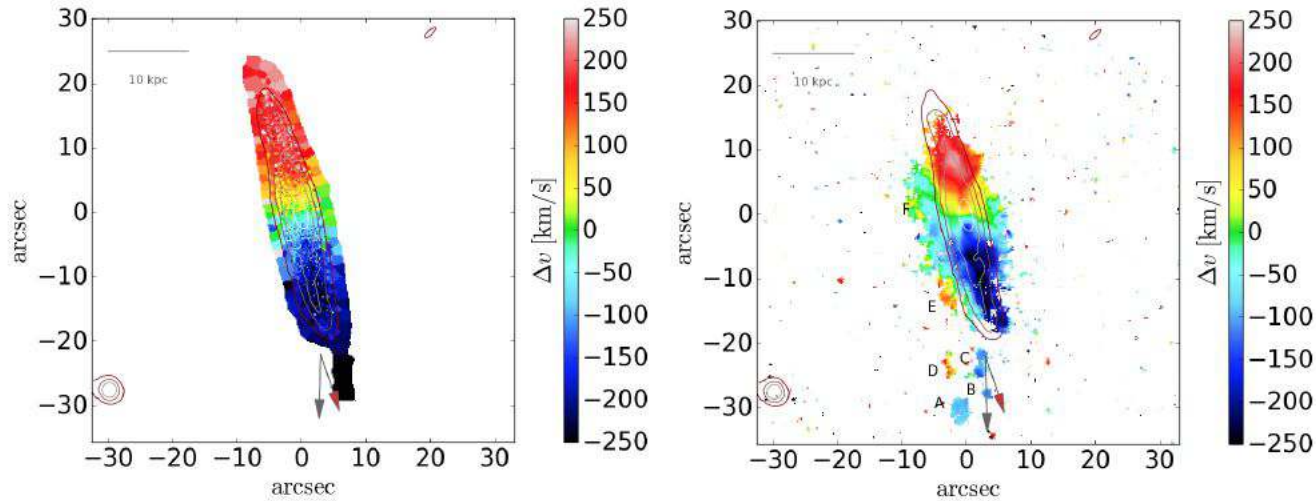


Figure 3. Left panel: Stellar velocity map. Right panel: gas velocity map. The solid lines in both figures are  $H\alpha$  continuum surface brightness contours in four logarithmically spaced levels. Regions labelled with letters from “A” to “F” are described in the text. The grey and red arrows point toward the BCG and the cluster X-ray emission, respectively. A cut of 4 in S/N was applied in the gas velocity map. North is up, east is left.

Менее красивый случай, разобранный в деталях:

Недавняя (20-500 млн.лет назад) вспышка звездообразования, индуцированная первым столкновением с газом скопления.

Далее – исчерпание газа + обвои давления =HII truncated disc

Обсуждение нового пакета для фиттинга спектров в кубах: SINOPSIS vs. GANDALF

: <http://web.oapd.inaf.it/gasp/>




**GASP**  
GAs Stripping Phenomena in galaxies with MUSE

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## GASP Publications

1. **GASP I: Gas stripping phenomena in galaxies with MUSE**  
*Poggianti et al. (2017)* , ApJ in press, ArXiv #: [1704.05086](https://arxiv.org/abs/1704.05086)
2. **GASP II. A MUSE view of extreme ram-pressure stripping along the line of sight: kinematics of the jellyfish galaxy JO201**  
*Bellhouse et al. (2017)* , ApJ in press, ArXiv #: [1704.05087](https://arxiv.org/abs/1704.05087)
3. **GASP III. JO36: a case of multiple environmental effects at play?**  
*Fritz et al. (2017)* , ApJ submitted, ArXiv #: [1704.05088](https://arxiv.org/abs/1704.05088)



## Additional materials

3D visualisation of H $\alpha$  gas of JO201