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HERschel Observations of Edge-on Spirals (*HEROES*)

III. Dust energy balance study of IC 2531[⋆]

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IC 2531

Fig. 1. Composite RGB-image of the *B*-, *V*- and *R*-passband frames from the Faulkes Telescope South (see Sect. 3). The length of the white bar in the bottom right corner is 1 arcmin.

Table 1. Basic properties of IC 2531.

RA (J2000)	09:59:56
Dec (J2000)	-29:37:01
Type	Sc
m_V (mag)	12.0
Semi-major axis (arcmin)	3.5
Semi-minor axis (arcmin)	0.4
D (Mpc)	36.8
Scale (pc/arcsec)	178
M_V (mag)	-20.8
i (deg)	89.6

Table 4. Results of the decomposition of the IRAC $3.6\,\mu$m image for IC 2531.

Component	Parameter	Value	Units
1. Thin disc:	$h_{R,inn}^t$	8.0 ± 0.54	kpc
(*BrokenExponentialDisk3D*)	$h_{R,out}^t$	3.33 ± 0.58	kpc
	h_z^t	0.61 ± 0.04	kpc
	R_b	21.41 ± 3.57	kpc
	i	89.6	deg
	L_t/L_{tot}	0.66 ± 0.07	—
2. Thick disc:	h_R^T	24.87 ± 0.77	kpc
(*ExponentialDisk3D*)	h_z^T	1.57 ± 0.18	kpc
	i	89.6	deg
	L_T/L_{tot}	0.15 ± 0.03	—
3. Bulge:	$r_{e,b}$	1.86 ± 0.11	kpc
(Sérsic)	n_b	2.26 ± 0.4	—
	q_b	0.85 ± 0.03	—
	L_b/L_{tot}	0.19 ± 0.05	—
Total	L_{tot}	-21.92 ± 0.19	AB-mag
	$M_\star$	7.91 ± 1.69	$10^{10}\,M_\odot$

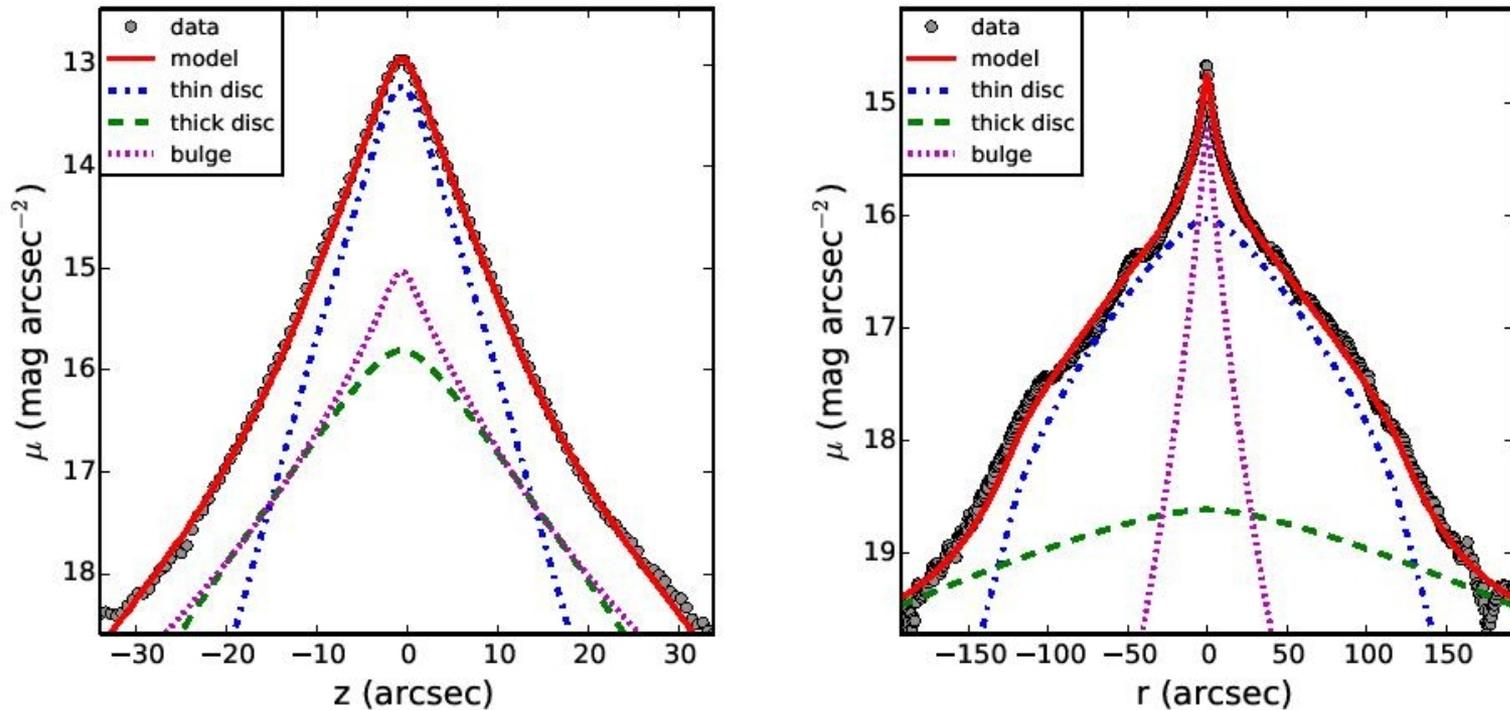# Горизонтальный и вертикальный профиль пов. яркости

Fig. 3. Vertical profile summed up in the range of $|r| \geq 50''$ where the fraction of the bulge is neglected (left) and horizontal profile summed up over all pixels in z-direction (right). *Comp_1*, *Comp_2* and *Comp_3* in the legends represent the thin disc, the thick disc and the bulge respectively,
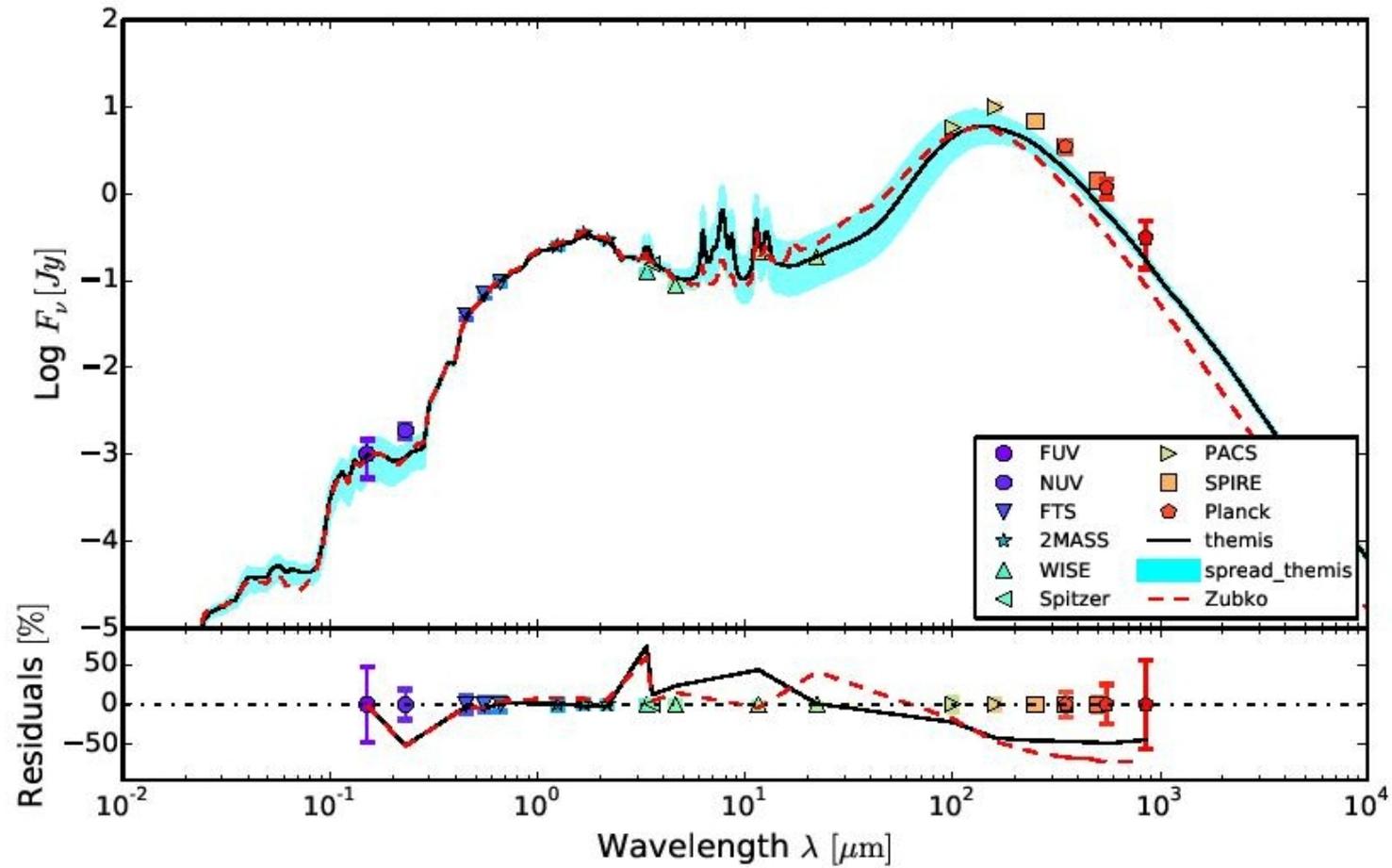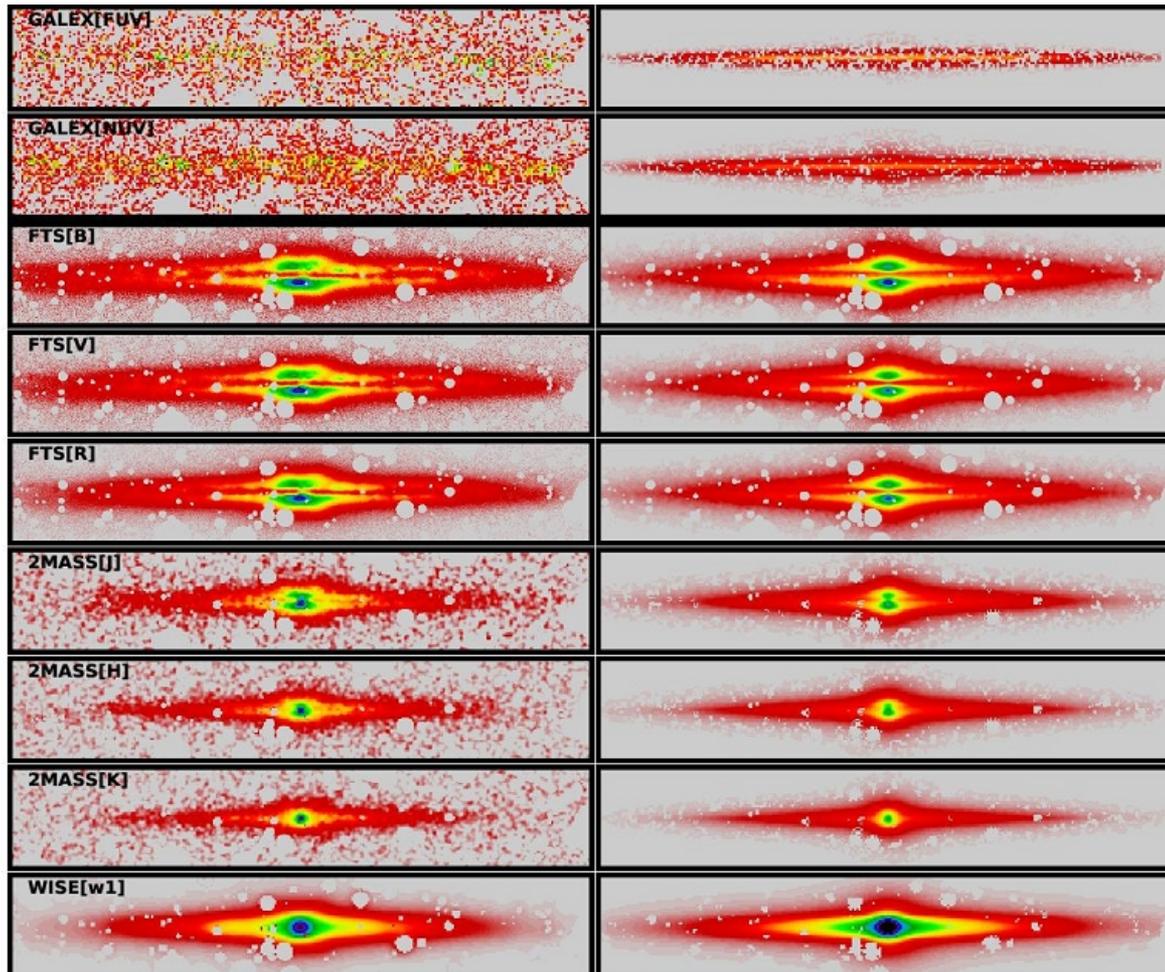
Подгонка SED

Fig. 6. The SED of IC 2531 based on the BARE-GR-S (the dashed line) and THEMIS (the solid line) dust mixture, with an additional young stellar component. The coloured symbols with error bars correspond to the flux densities listed in Table 3. The cyan band represents the spread in the

Реальные и модельные изображения

SDSS IV MaNGA - Spatially resolved diagnostic diagrams: A proof that many galaxies are LIERs

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Matthew A. Bershady[6], Karen L. Masters[3,7] Renbin Yan[8], Dmitry Bizyaev[9,10],
Médéric Boquien[11], Joel R. Brownstein[12], Kevin Bundy[13], Niv Drory[14],
Timothy M. Heckman[15], David R. Law[16], Alexandre Roman-Lopes[17], Kaike Pan[9],
Letizia Stanghellini[18], Daniel Thomas[3], Anne-Marie Weijmans[19] and Kyle B. Westfall[3].
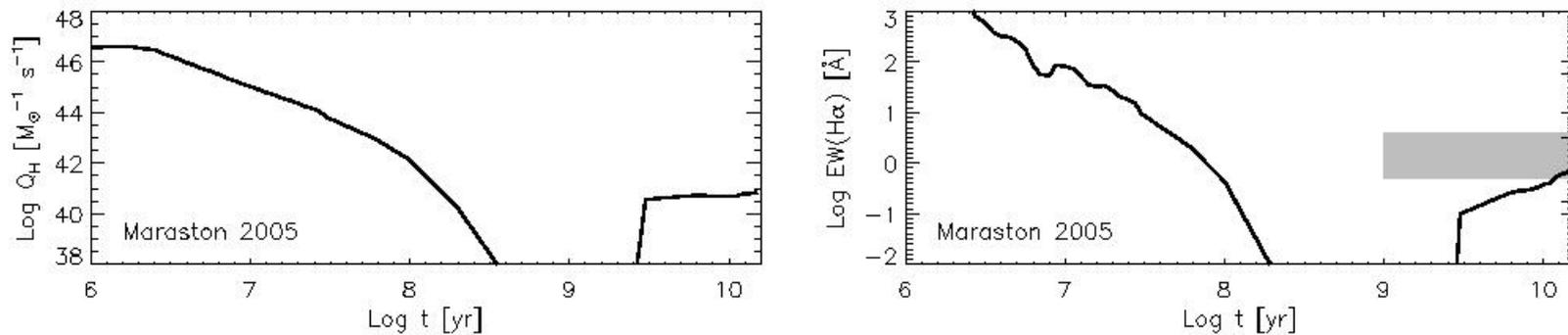
Наконец-то модель! Теорема о сжигании топлива…

Figure 2. The ionising photon flux (Q_H) per unit stellar mass and the equivalent width of Hα as a function of age after the starburst for Maraston (2005) stellar population models, using pAGB (including planetary nebulae) model tracks based on Stanghellini & Renzini (2000). The ionising flux and EW(Hα) due to the young stellar population declines quickly after the burst. Physically motivated choice of pAGB parameters predict an EW(Hα) in the range 0.5 - 3.0 Å at late times, corresponding to the shaded in grey in the right panel.
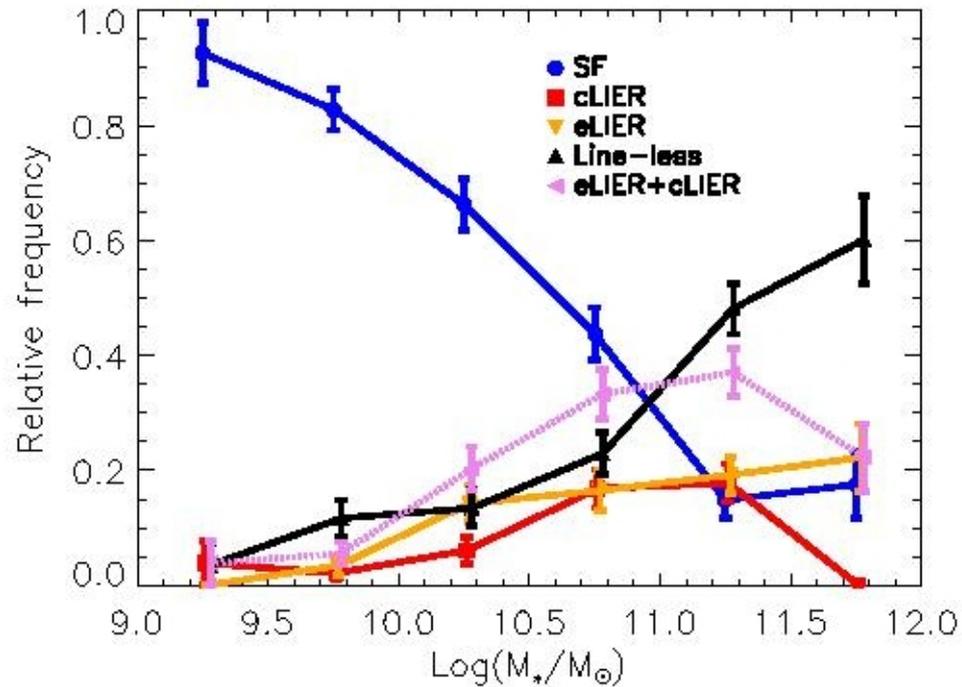
BPT-диаграммы
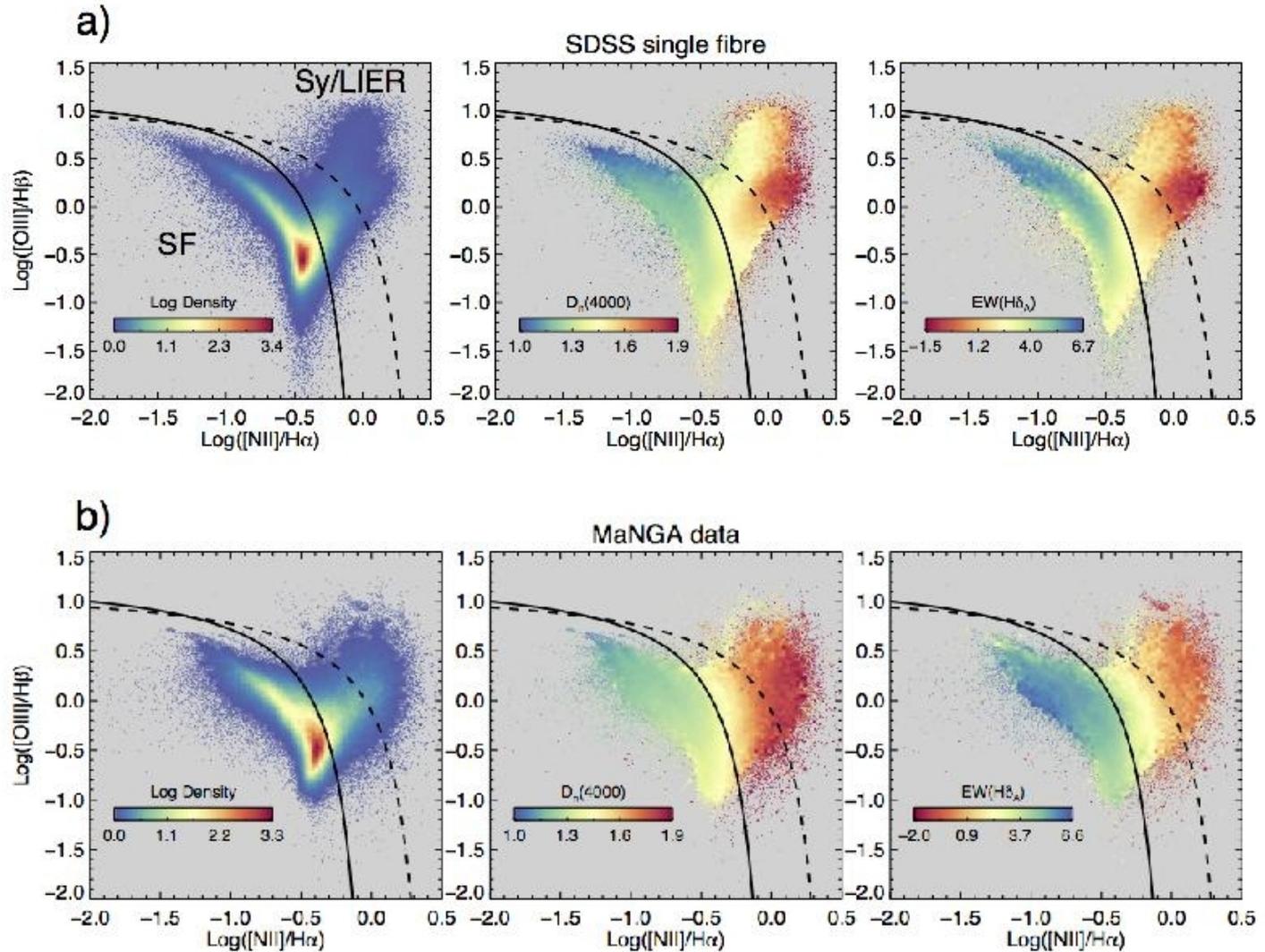
Классификация
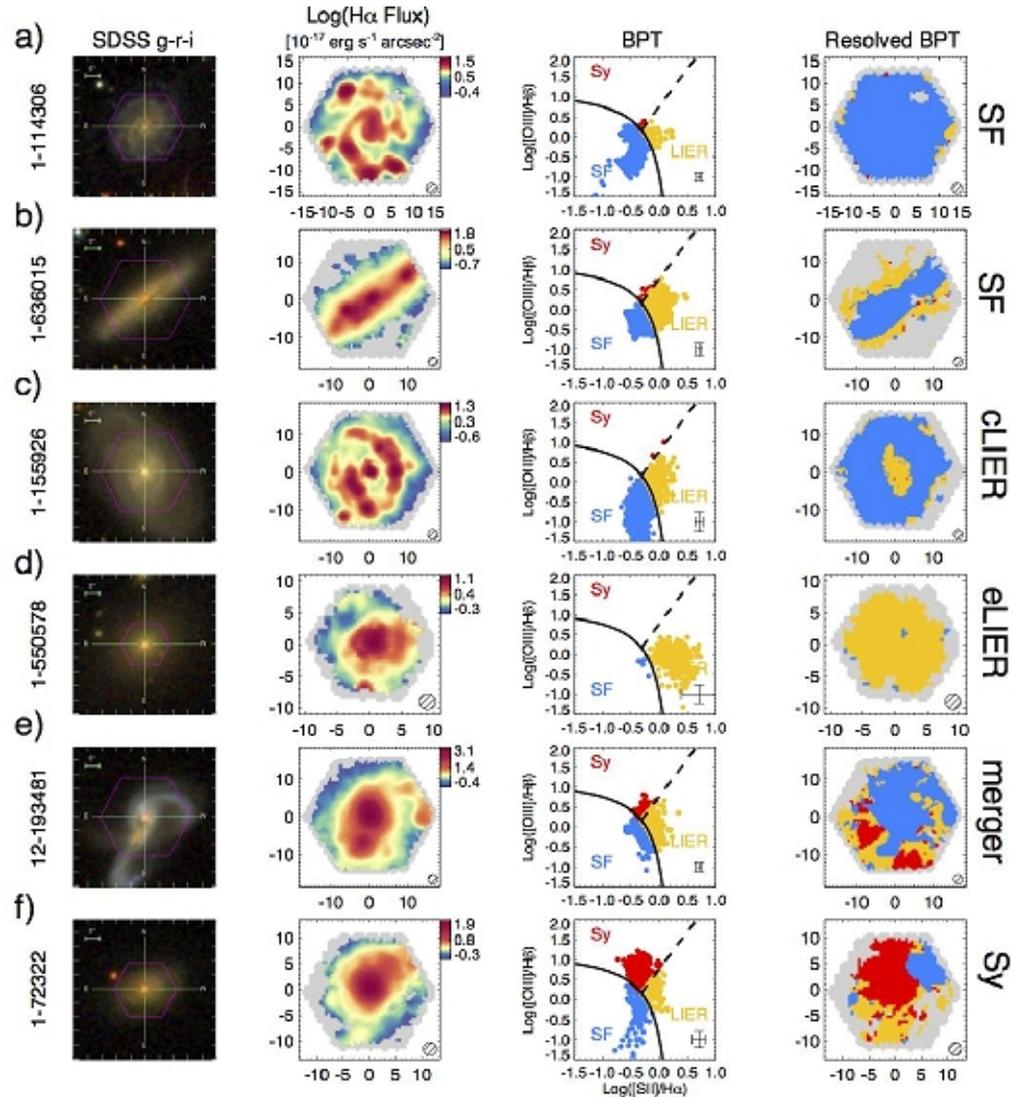
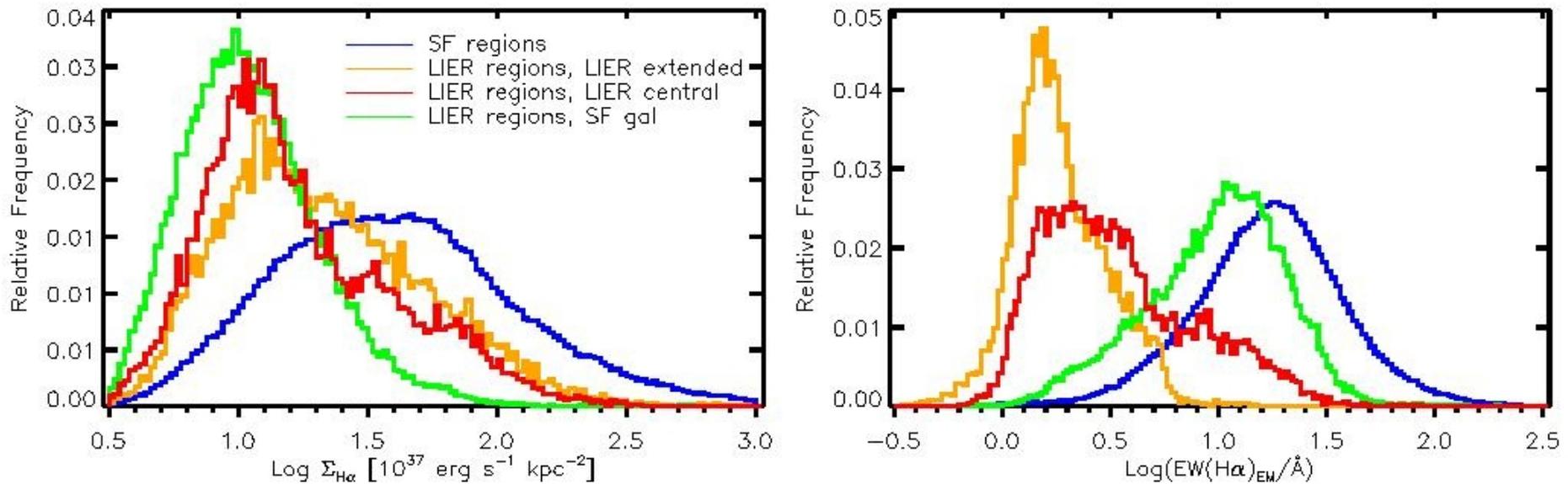# Встречаемость

Разграничение по EW(H-alpha)?

Figure 7. Histograms of the distribution of Hα surface brightness and the equivalent width of Hα (in emission) for MaNGA spaxels. Spaxels of different classes are colour-coded differently following the legend in the left panel. The blue histograms correspond to spaxels classified as SF (independently of galaxy class). LIER spaxels are subdivided in three classes, depending on the galaxy type: LIER extended (or eLIER, in orange), LIER central (cLIER, in red) and SF galaxies (in green).

Радиальные профили всего…