An Active Galactic Nucleus Caught in the Act of Turning Off and On

Julia M. Comerford et al

SDSS J1354+1327, z=0.06.
Сперва заинтересовались смещением в SDSS узких линий на 69 км/с от Vsys
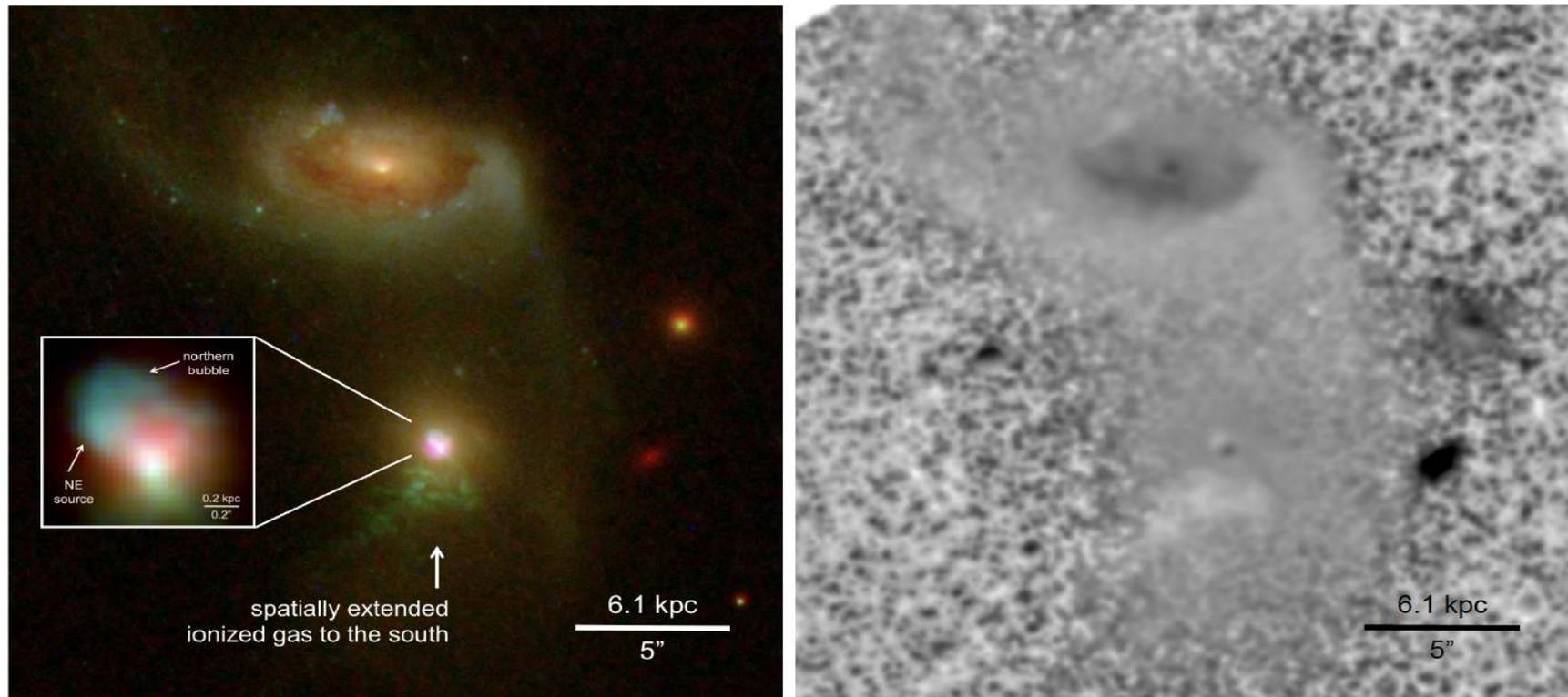+ Chandra, HST/WFC3, Keck/OSIRIS, APO long-slit...

FIG. 1.— $25'' \times 25''$ images of SDSS J1354+1327 and its companion galaxy SDSS J1354+1328, which is located 12.5 kpc to the northeast. Left: a four-color image, where the observations shown are *HST* F160W (red), F606W (green), F438W (blue), and *Chandra* restframe $0.5 - 10$ keV (purple, one-twelfth size pixels smoothed with a 16 pixel radius Gaussian kernel). The inset shows a $1''.2 \times 1''.2$ zoom around the northern region of the galaxy, with only the *HST* data shown to more clearly illustrate the northern bubble of ionized gas. Right: a $V - H$ color map to illustrate the distribution of dust in the system. The color map is plotted on a logarithmic gray scale, where dark
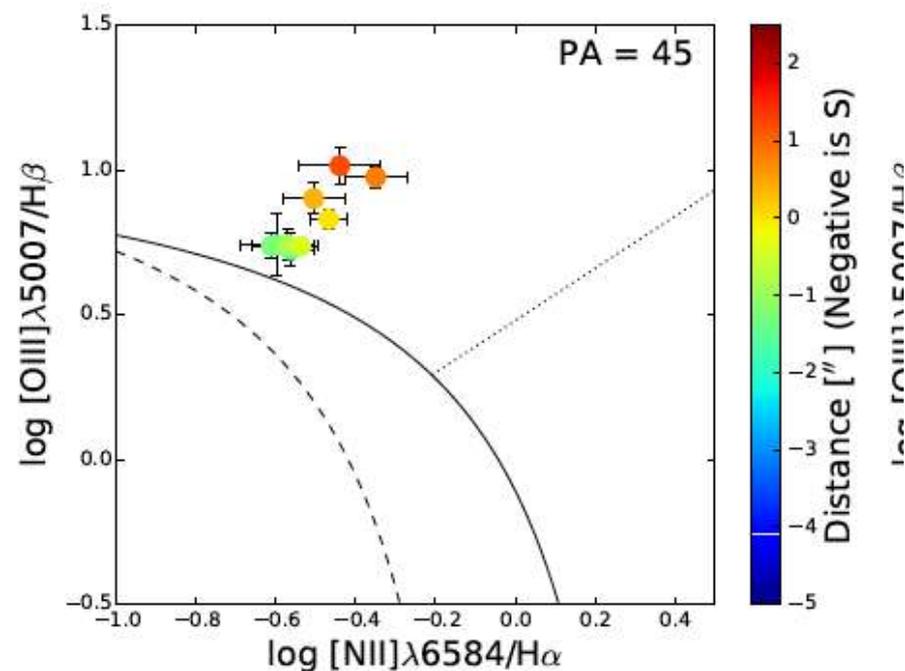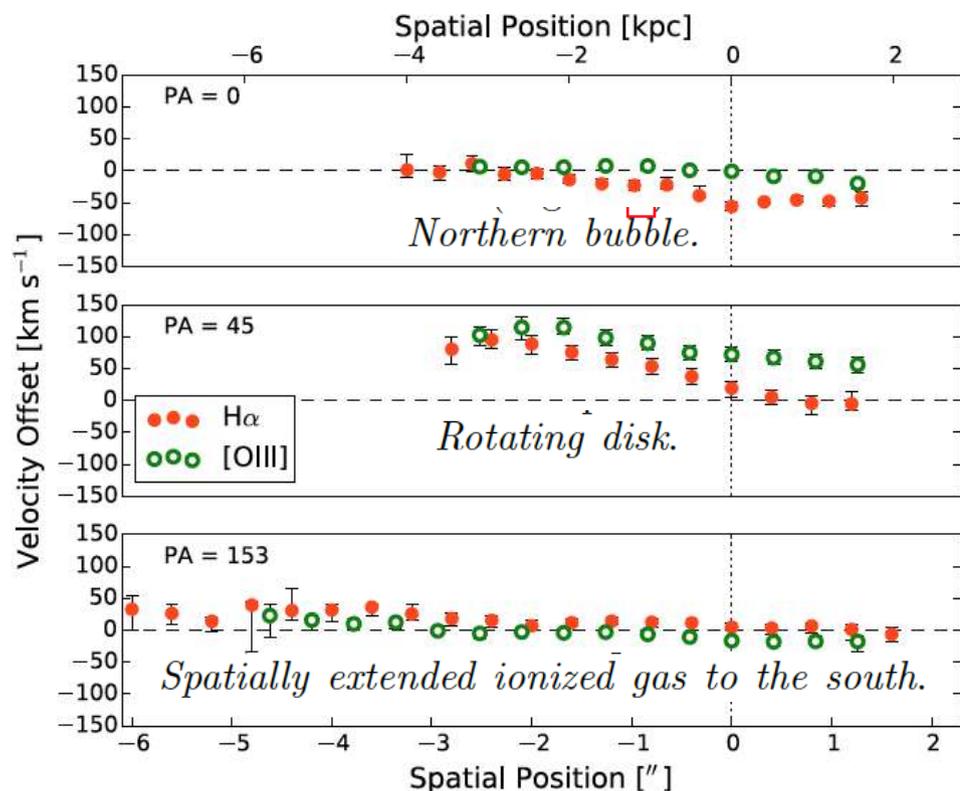
Long-slit spectra

FIG. 5.— Line-of-sight velocity offsets of emission lines along the three different position angles used for the APO/DIS longslit observations. Hα is illustrated with filled red circles, while [O III] λ5007 is illustrated with open green circles, and along each slit the emis-
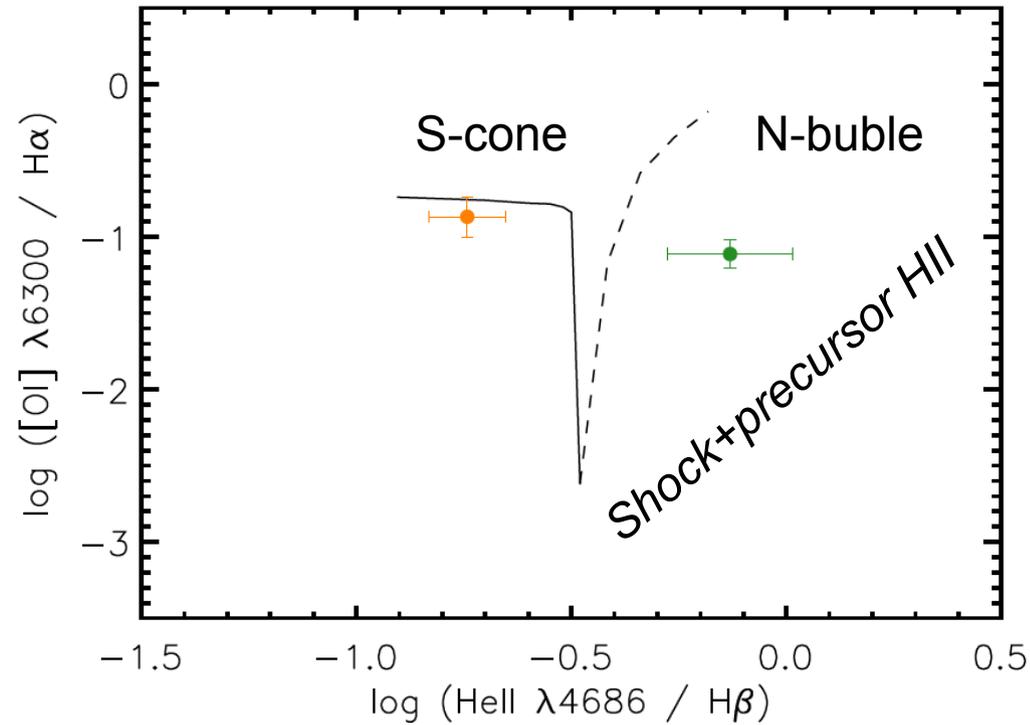
Семинар VOLGA 09/10/2017, Моисеев

FIG. 7.— [O I] $\lambda6300$/Hα vs. He II $\lambda4686$/Hβ. The orange point illustrates the line flux ratios of the emission located 3 kpc south of the galaxy center along position angle 153°, which is part of the spatially extended ionized gas to the south. The green point illustrates the line flux ratios of the emission located 0.5 kpc north of the galaxy center along position angle 45°, at the location of the NE source. The solid line represents pure photoionization models with ionization parameter U varying between $\log U = -1$ (bottom) and $\log U = -4$ (top), and a spectral index of the ionizing continuum $\alpha = -1$. The dashed line represents a model of shocks and a matter bound precursor, where the shock has $v = 1000$ km s^{-1} (models adapted from Moy & Rocca-Volmerange 2002).

OSIRIS (NIR, AO, 0.1"/px)

K-band continuum (top left), Paα flux distribution (top middle), and Paα velocity (top right)
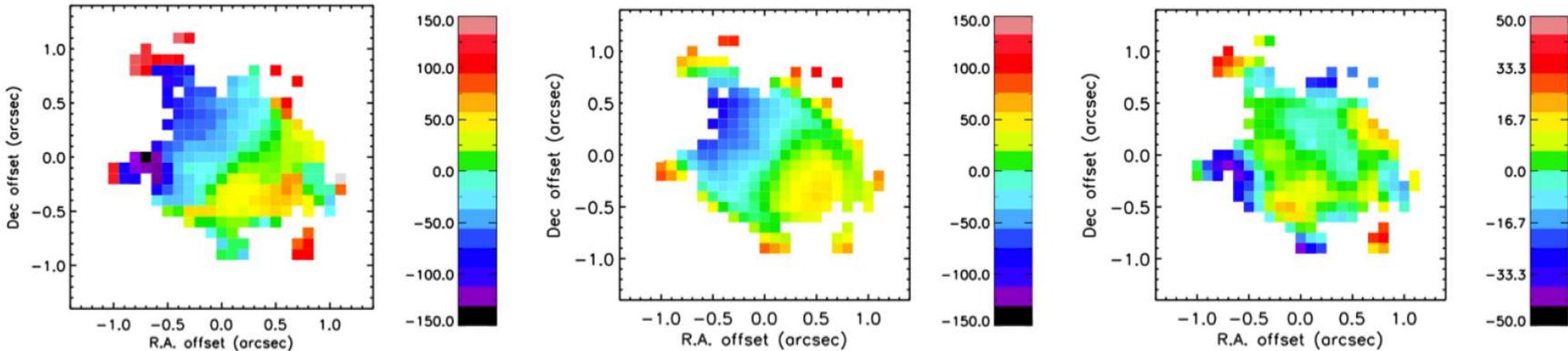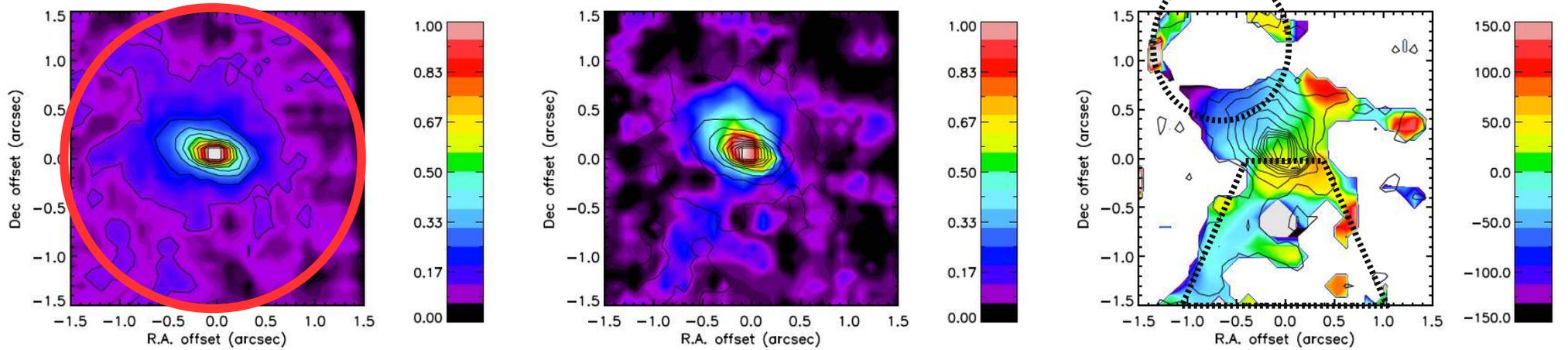
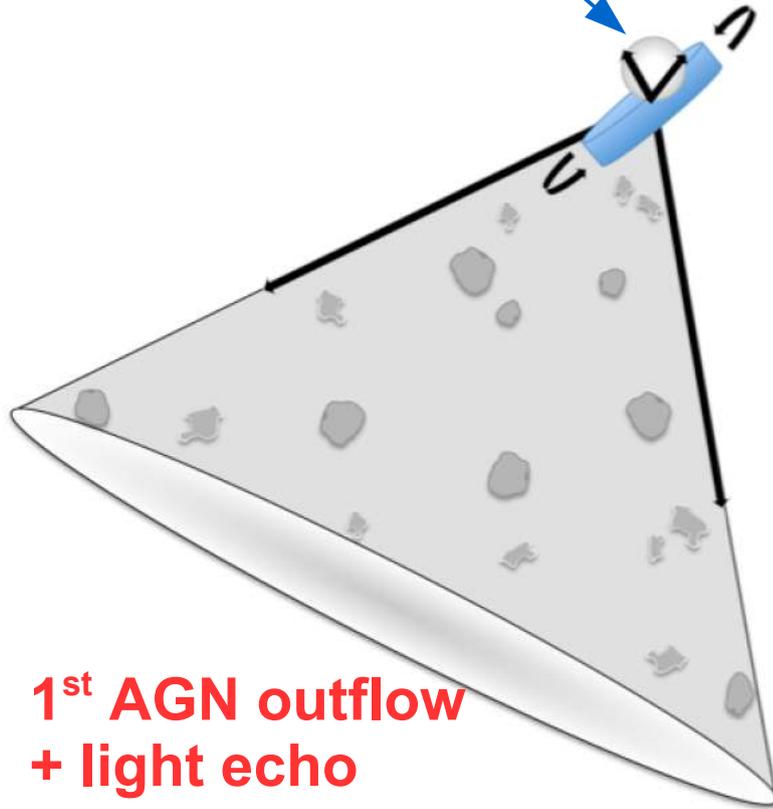Velocity (masked)   Disk   Residuals

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Second AGN outflow
<100 000 yrs

Для северного пузыря ударное возбуждение отметает чисто ионизационный сценарий.
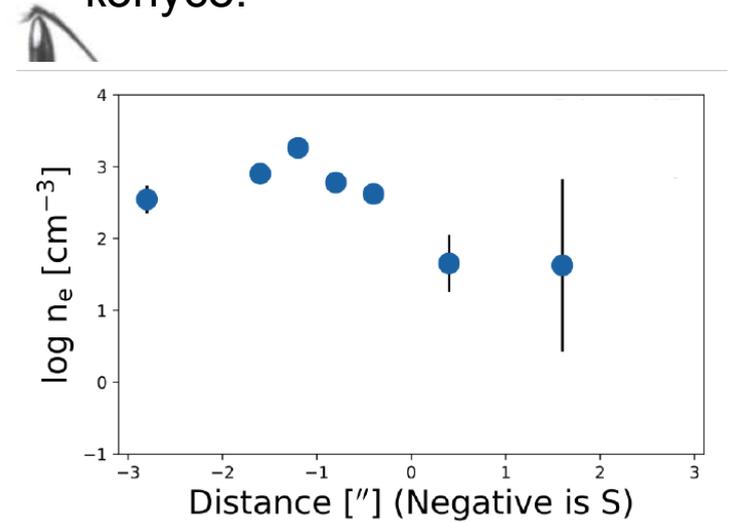
А плотность газа выше в конусе:

1ˢᵗ AGN outflow
+ light echo

5 kpc
4.1"

$\dot{M} = m_p n_e V_{max} f A$, where m_p is the proton mass.
find $\dot{M} = 6.5^{+52.3}_{-6.3}\ M_\odot\ \text{yr}^{-1}$.

Утверждают, что   SFR даст только 0.2 Mo/yr,
что недостаточно для формирования конуса
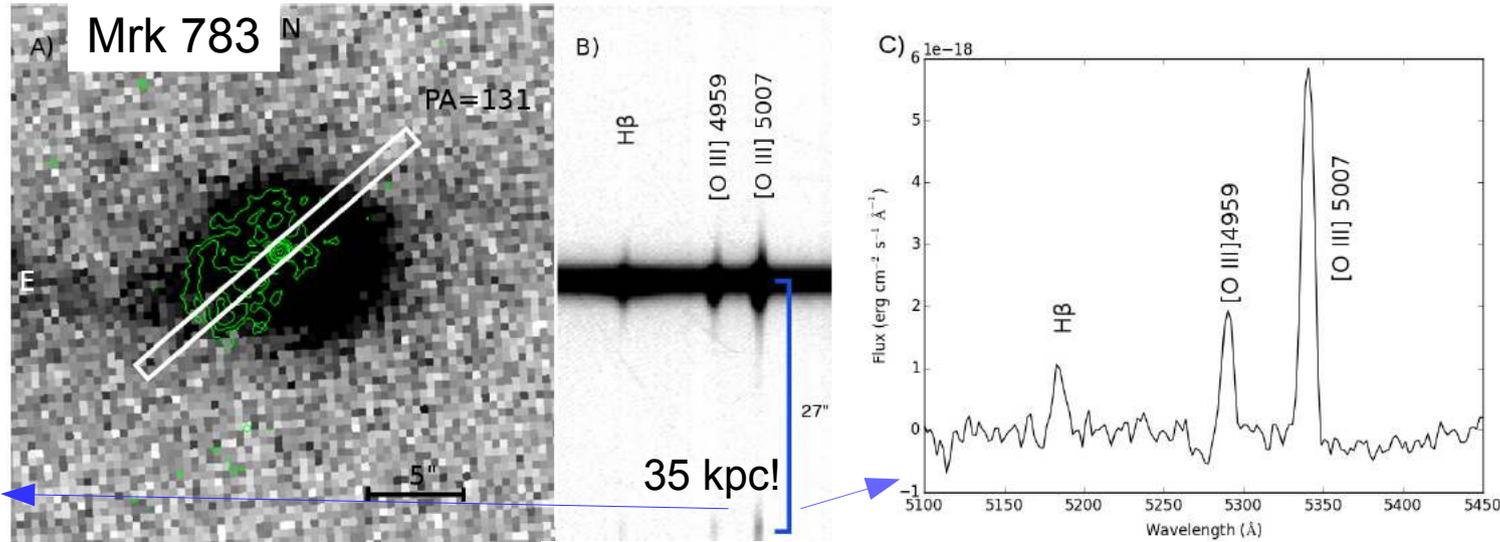
Extended narrow-line region in Seyfert galaxies [IC5063, NGC7212, Mrk 738]

E. Congiu, M. Contini, S. Ciroi, V. Cracco, F. Di Mille, M. Berton,
M. Frezzato, G. La Mura, P. Rafanelli

MagE (Magellan echellette) spectrograph
R~8000, sigma=2 A (!)

Во всех трех галактиках-
нет ионизации от ЗО! (?)