

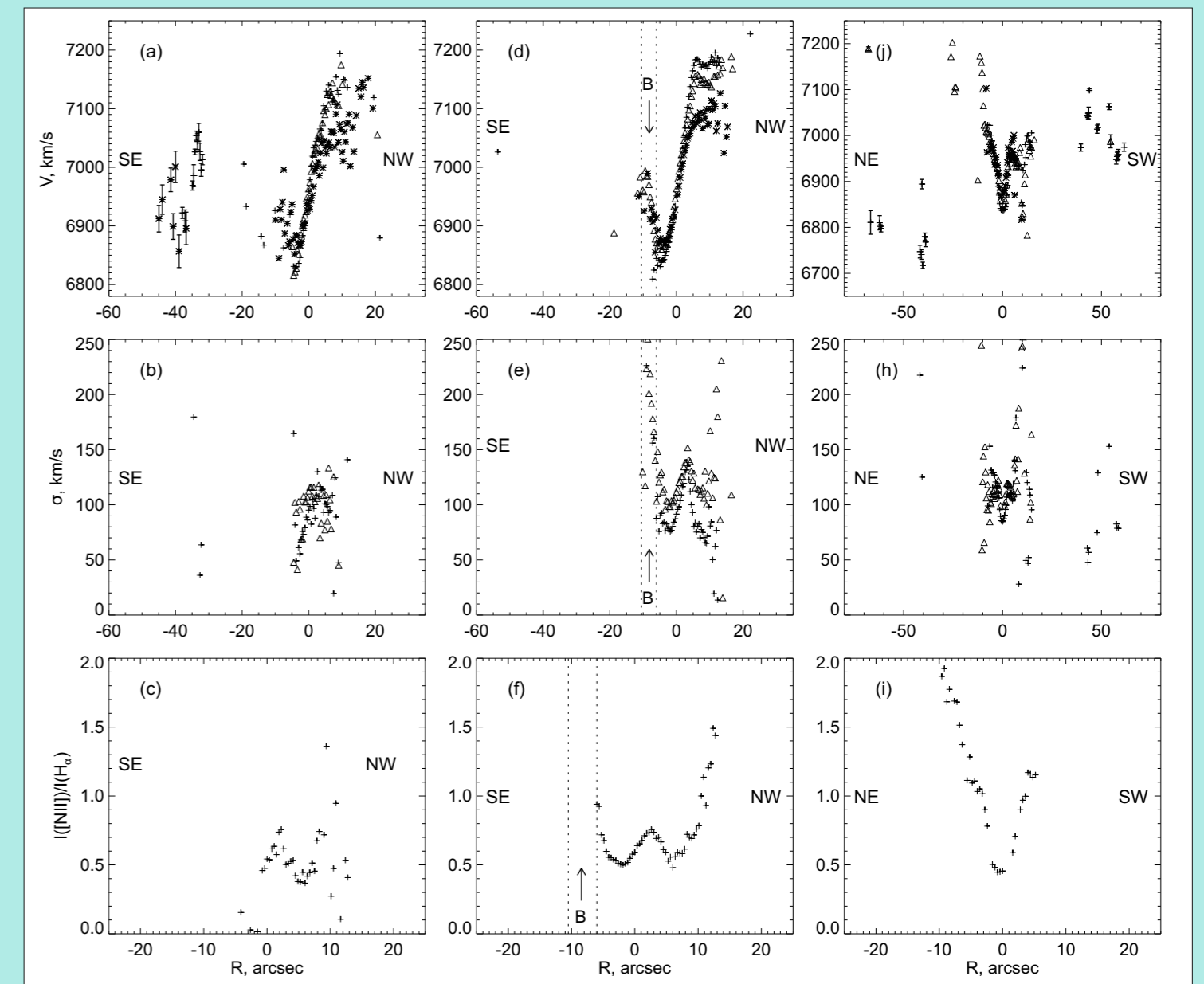
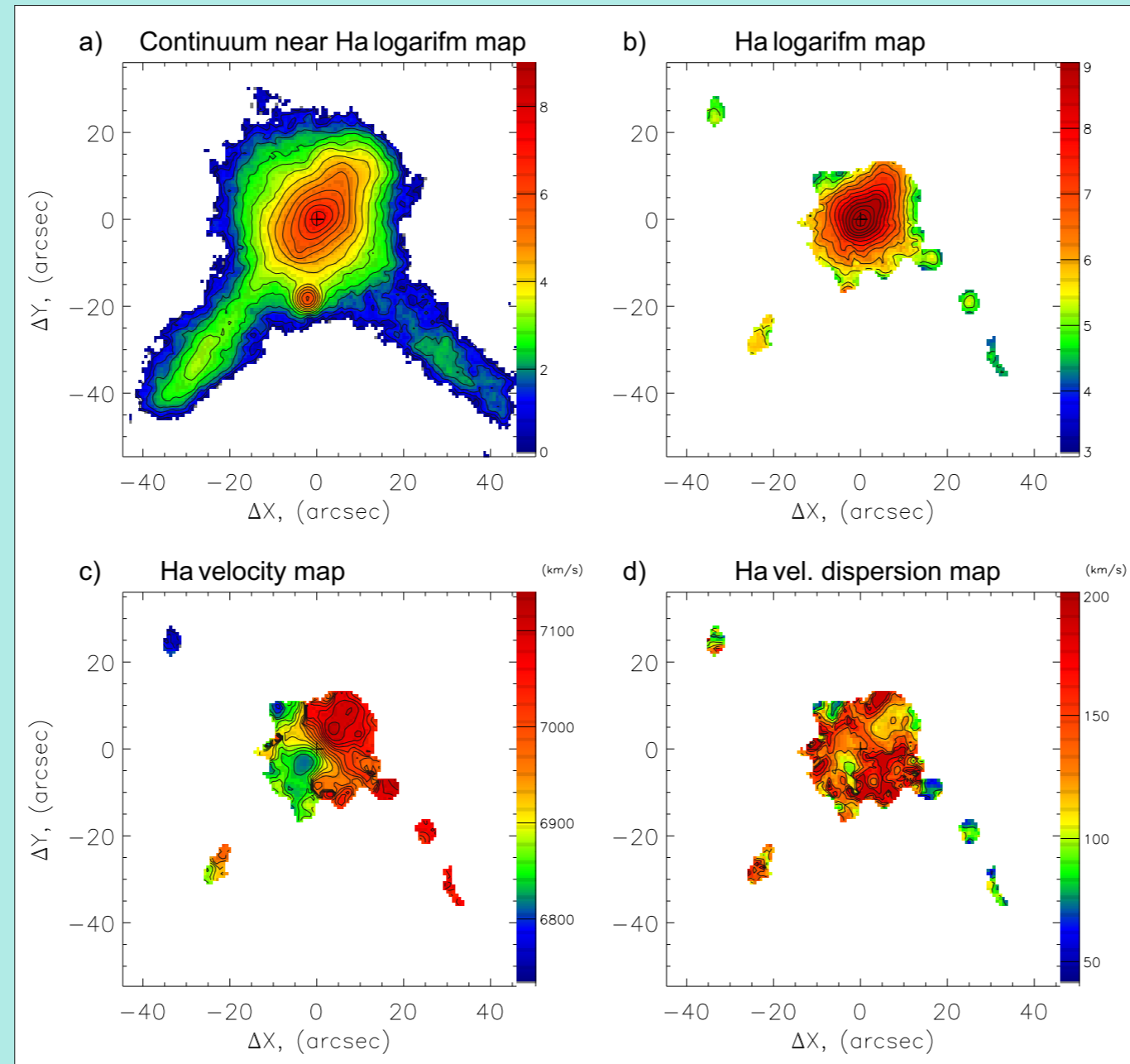
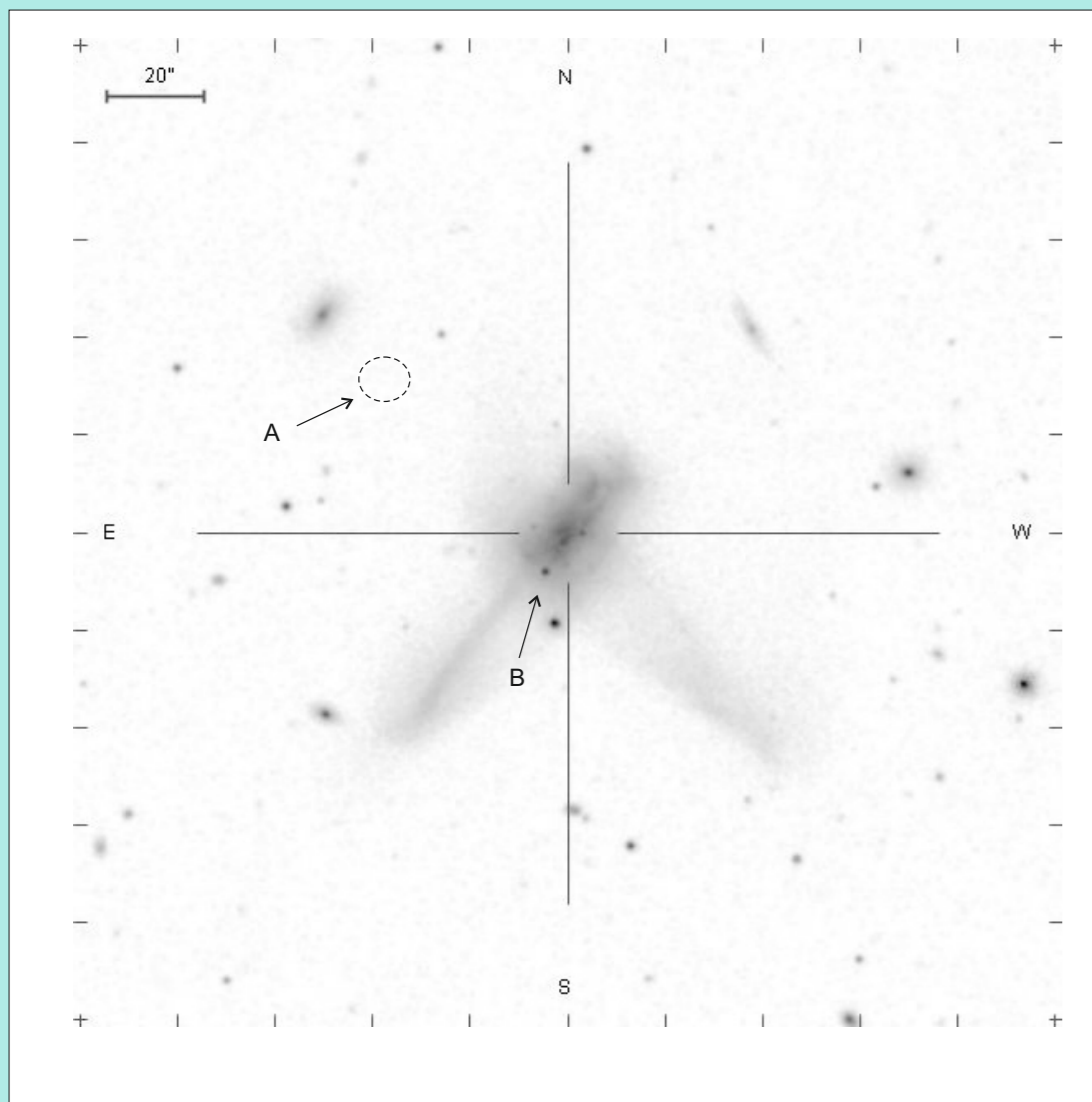
Observational study of peculiar galaxies with multicomponent structure

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We present the results of the detailed analysis of new spectral data obtained with the 6-m telescope (Russia) for a number of peculiar galaxies (candidates to polar ring galaxies). The circumnuclear regions of some galaxies were observed with integral-field spectrograph MPFS; the large-scale velocity fields of the ionized gas were constructed from observations with scanning Fabry-Perot interferometer (FPI). For all galaxies long-slit spectra along their inner features or outer filaments were obtained.

UGC 8387

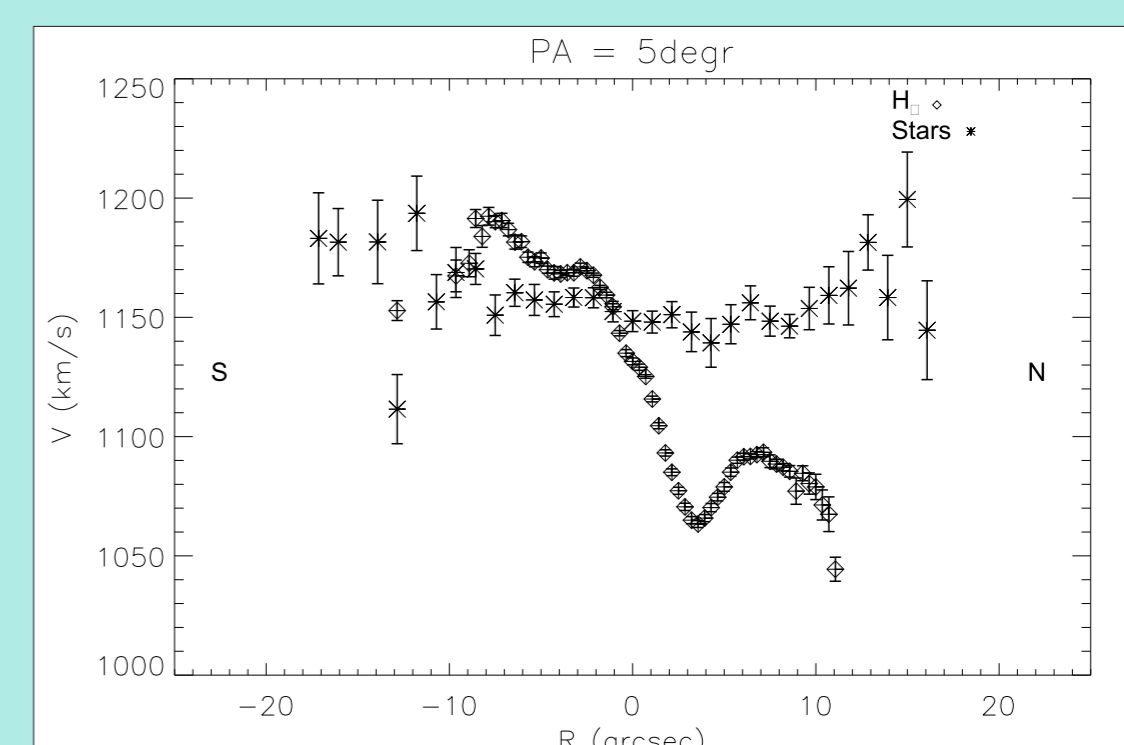
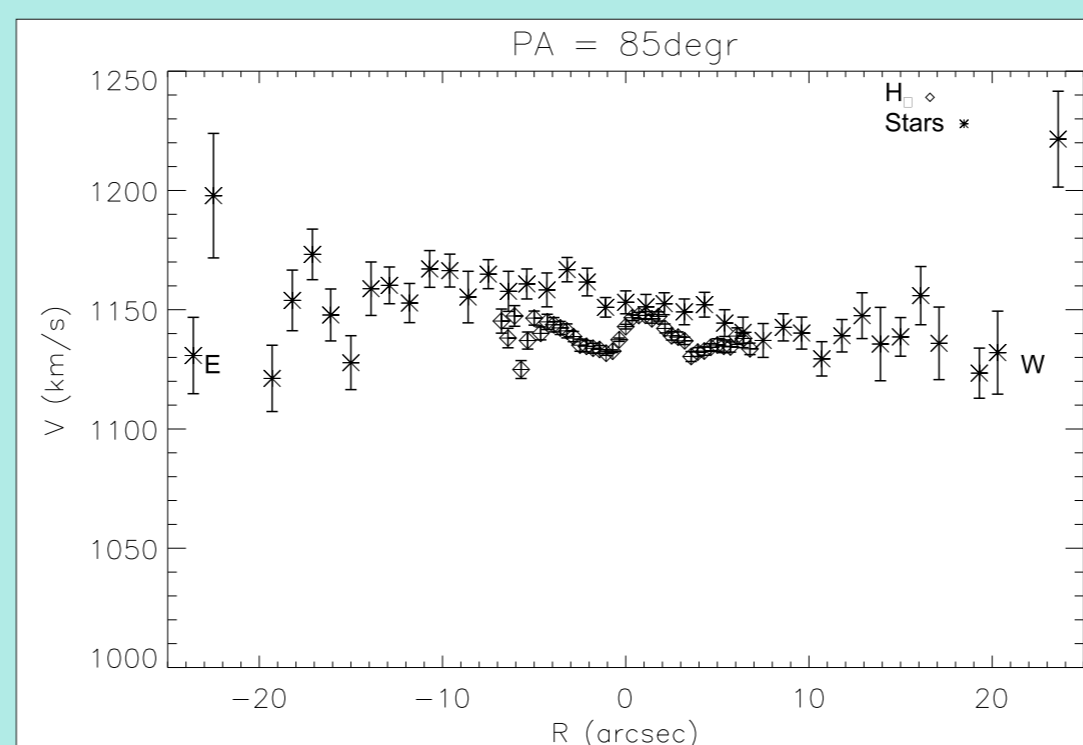
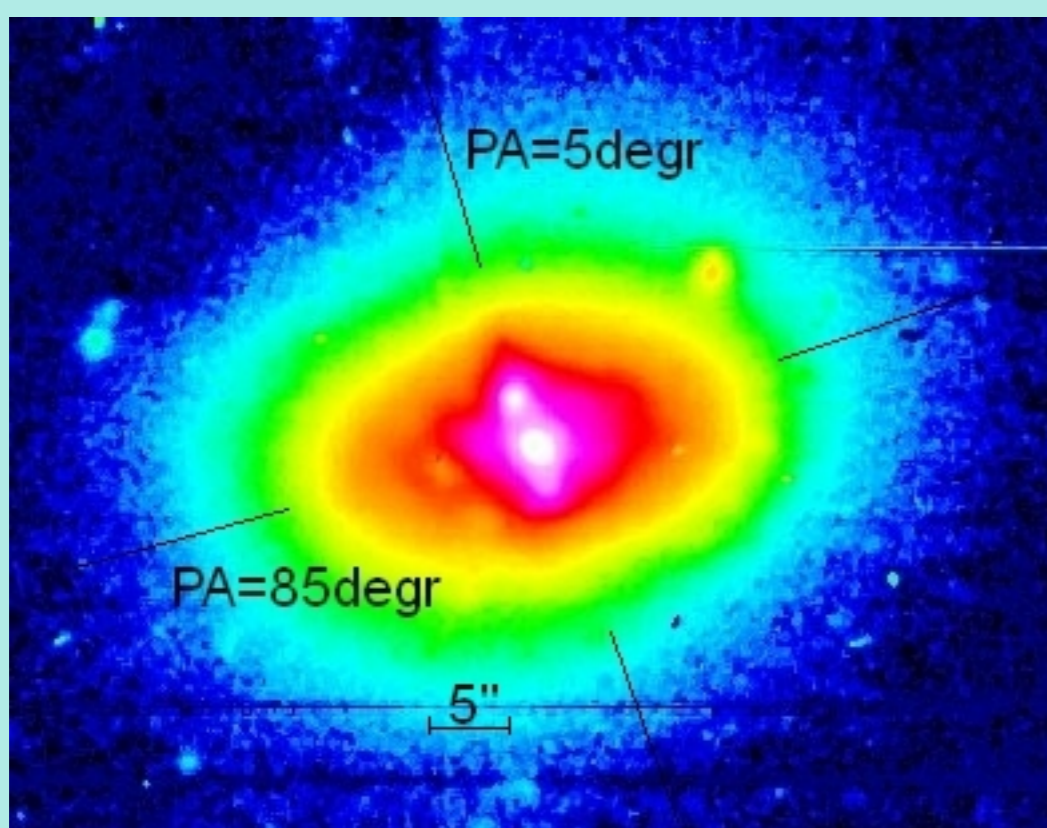
is on the stage of merging of two galaxies



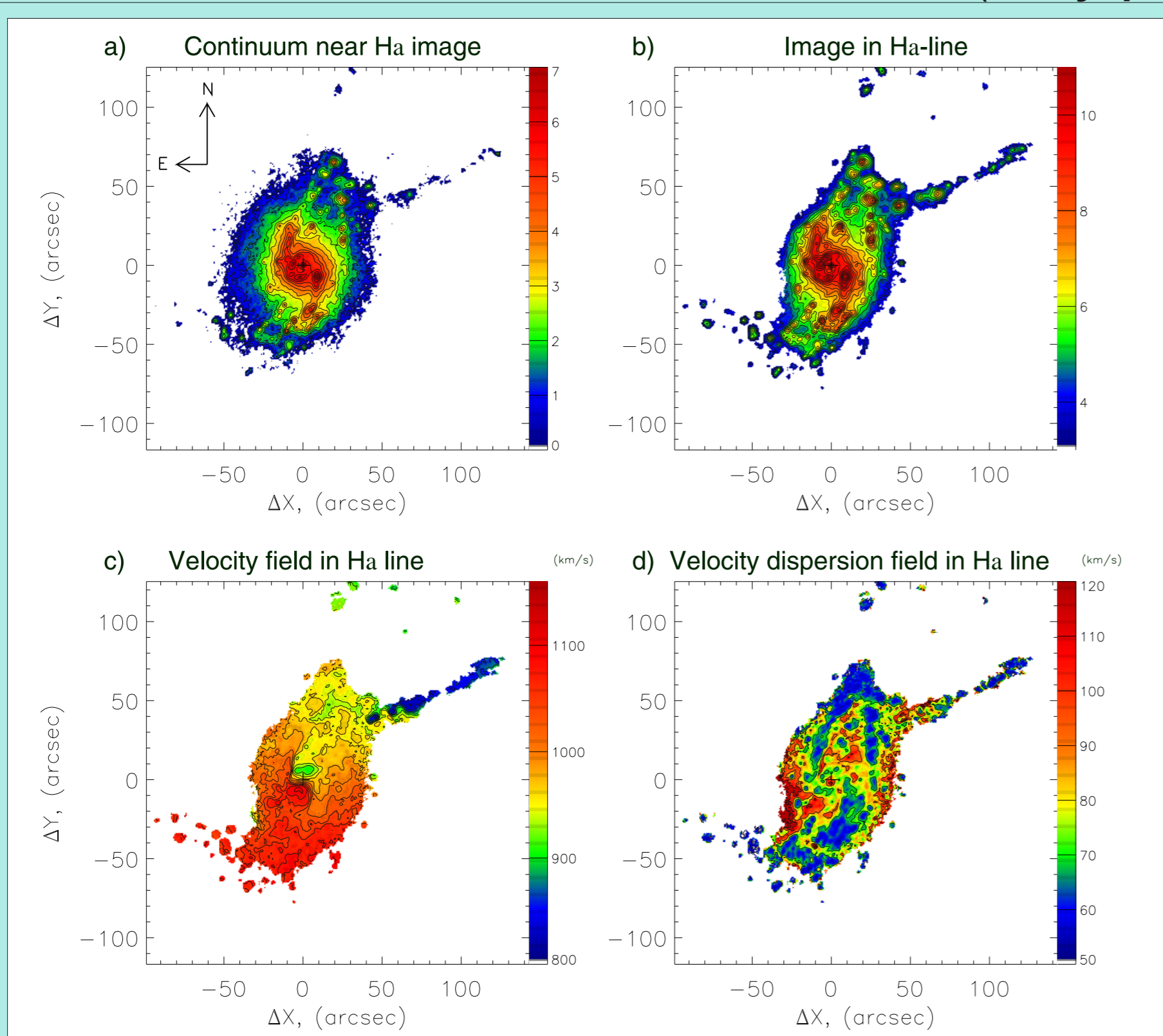
The main body of the galaxy rotates around the minor axis. Positions of dynamic axes of stellar and gaseous components differ by $\sim 10^\circ$, and velocities in the SE-tail do not correspond to the circular rotation around the minor axis of the galaxy. Along the minor axis, regions with high velocity dispersion and peculiarities in velocity fields were found. The region B is neither globular cluster nor HII region, but rather a dwarf galaxy. Observations using the FPI in the emission line H α and direct images have revealed a region of the ionized gas (A), which together with already known structures along the minor axis, probably, forms a patchy tidal structure. The observed peculiarities were probably formed from the merger of two galaxies. The SE-tail can be a fragment of the unwound curved spiral arm, and the region B can be a remainder of companion galaxy. Structures along the minor axis are the ionized gas pulled off from the companion galaxy. (Yakovleva et al., *Astronomy Letters*, v.42, p.215, 2016)

UGC 1198

has already formed inner polar disc

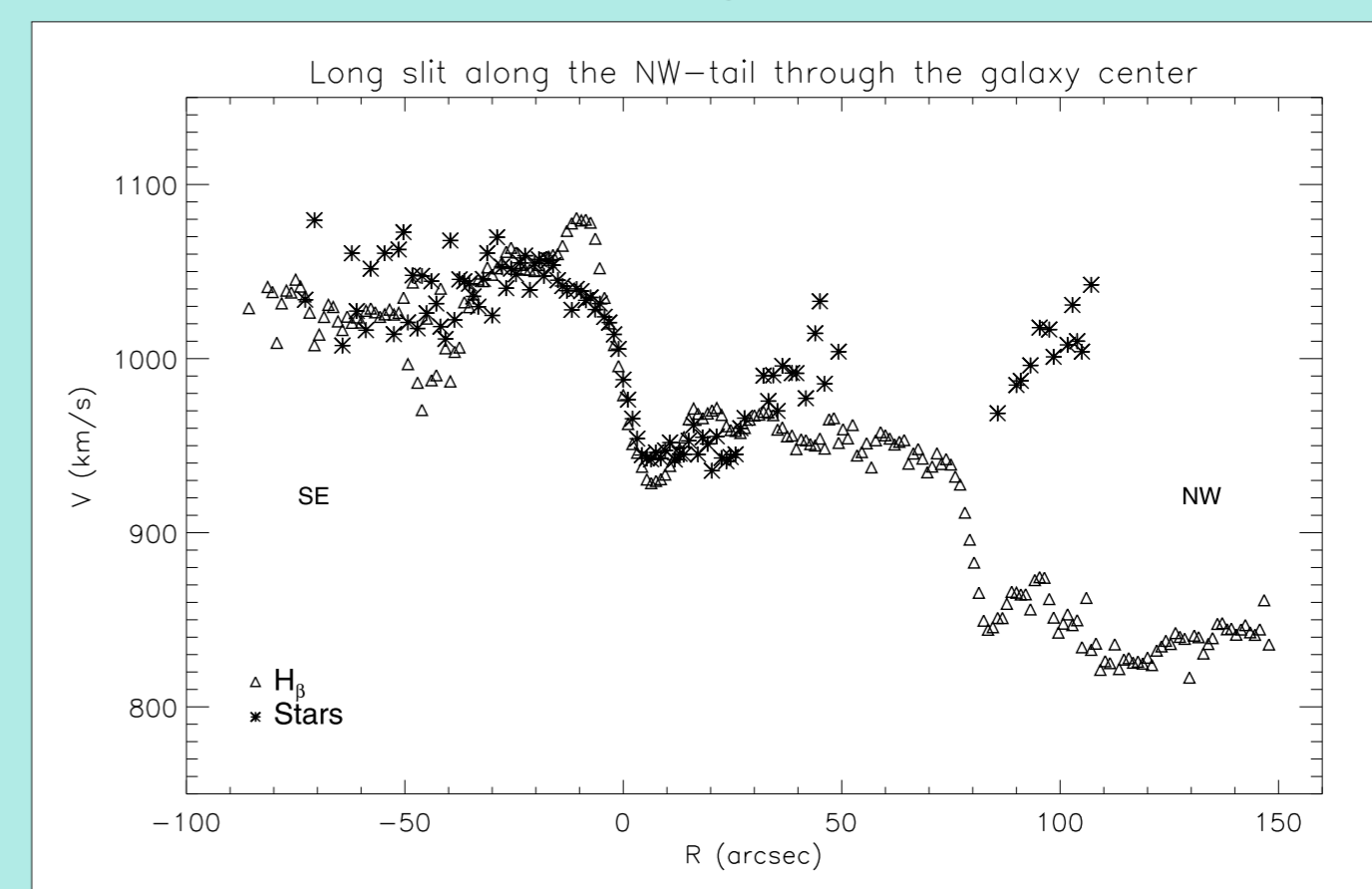


Our research revealed that the main body of the galaxy is poor of gas. The ionized gas belongs to the peculiar structure, which is elongated along PA = 5° and is possibly disc. The ionized gas of this disc rotates around the major axis (PA = 85°) of UGC 1198, i.e. this disc is polar. (Shalyapina et al., *Galaxies*, v.4, p.2, 2016)



NGC 3310

is on the stage of relaxation



According to our long-slit data in the "green" spectral region, the difference in velocities of stars and gas of the order of 100 km/s was revealed in the region at the distance of about 100'' along the NW-tail.

In the central region ($r < 10''$), the change of dynamical axis position angle PA_{dyn} and inclination i_{dyn} with distance from the center is observed; there non-circular motions, possibly, with expansion take place. The outer part of the galaxy ($20'' \leq r \leq 70''$) can be approximated by the model of a circular rotating thin disk (with parameters: $PA_{dyn} = 160^\circ$, $i_{dyn} = 60^\circ$). The NW tail-like structure most likely lies above the plane of the main body disk.

Peculiarities of NGC 3310 are thought to result from a major merger (Kregel & Sancisi, *A&A*, v.376, p.59 (2001)) or multiple, smaller mergers (Wehner et al., *Mon.Not.R.Astron.Soc.*, v.371, p.1047 (2006)). At present, this galaxy is on the stage of relaxation.