

# STELLAR POPULATIONS IN THE INTERACTING SYSTEM ARP94 WITH SITELLE



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SITELLE is the new Imaging Fourier Transform Spectrograph of the Canada-France-Hawaii Telescope. It produces an impressive number of 4 million spectra in a single datacube in selected bandpasses of the visible from 350 to 900 nm. Its large FoV (11'x11') and its high spatial sampling (0.32"/pixel, seeing limited) allow to study extended objects with an unprecedented view (Drissen et al. 2014 Ad. Astronomy, 9). Although best adapted for the study of emission line regions, SITELLE is also very promising for the study of galaxy stellar populations from their absorption lines.

This image of Arp94 is a combination of the datacubes obtained with SITELLE's filters :

- C1 [389-484 nm, R=400 4h]
- SN2 [482-513 nm, R=600 2h]
- SN3 [647-685 nm, R=1400 2h]

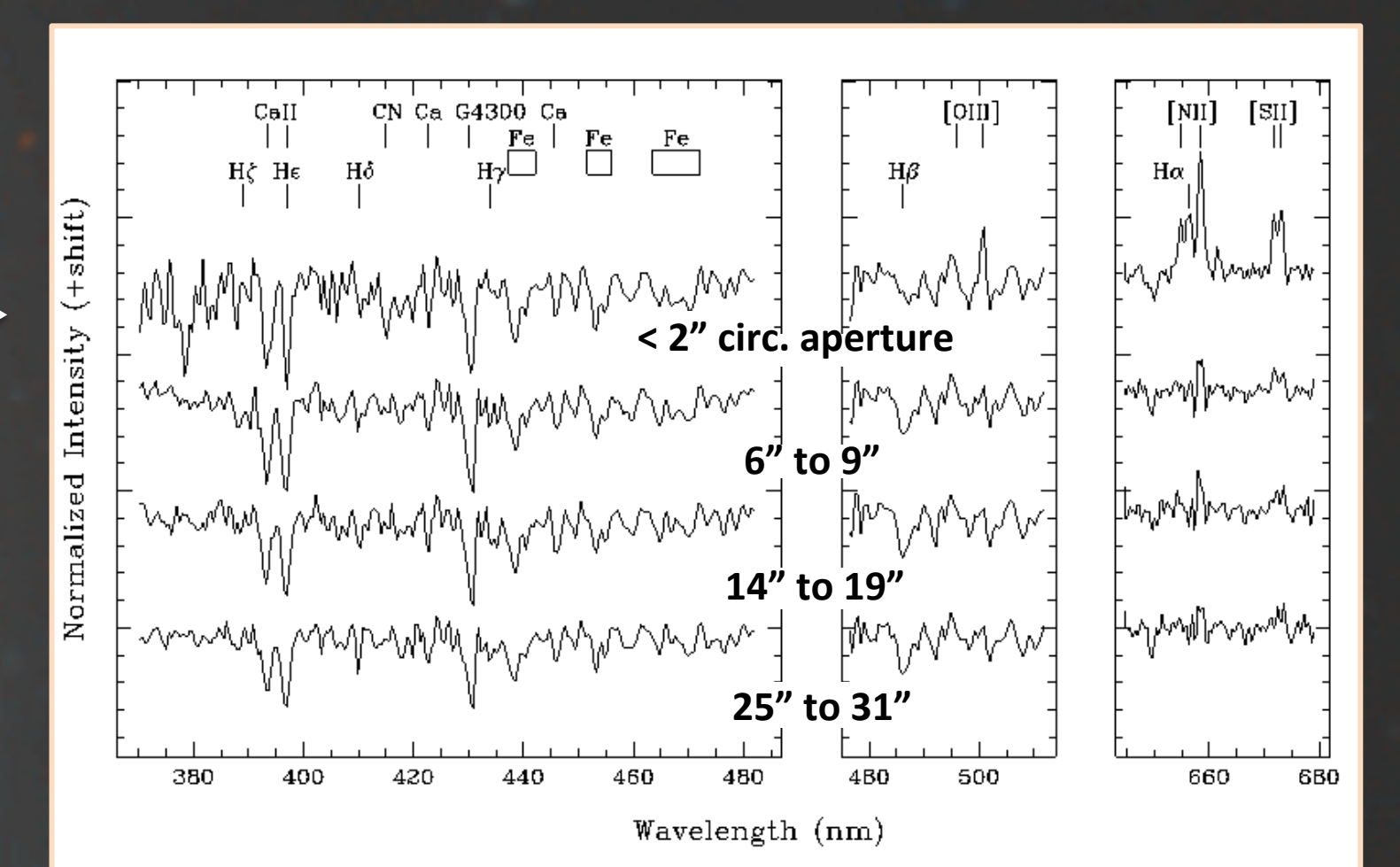
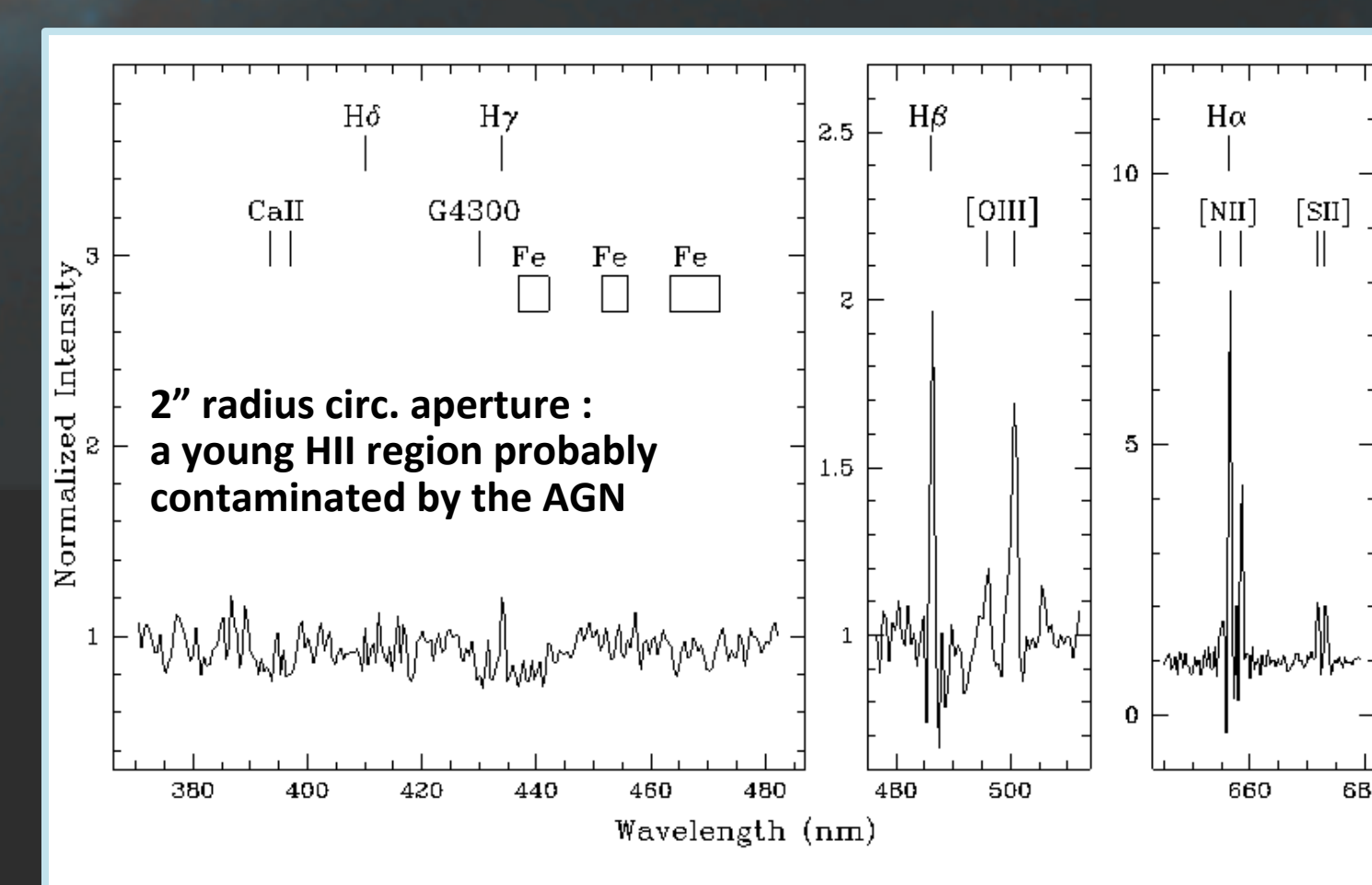
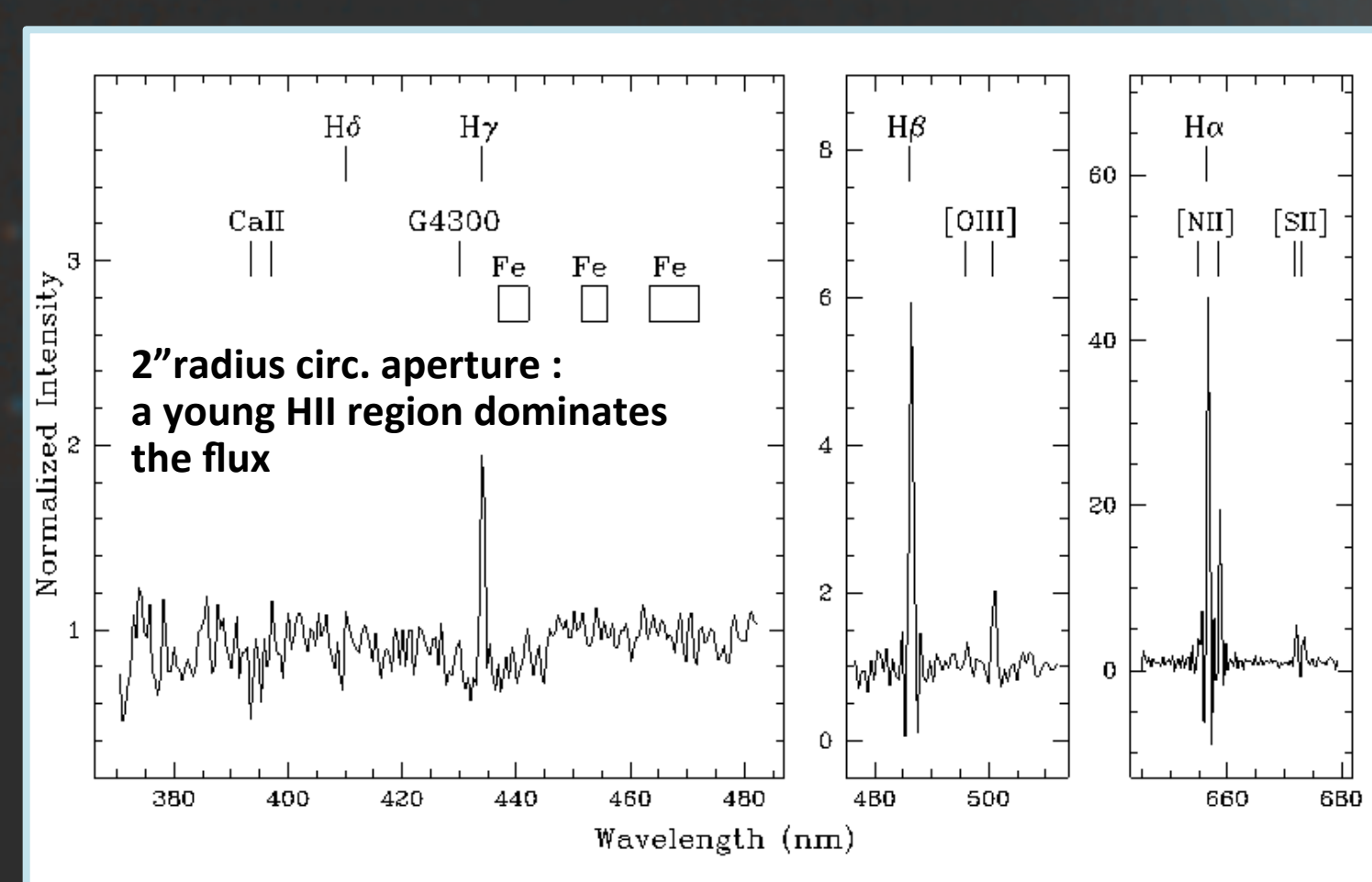
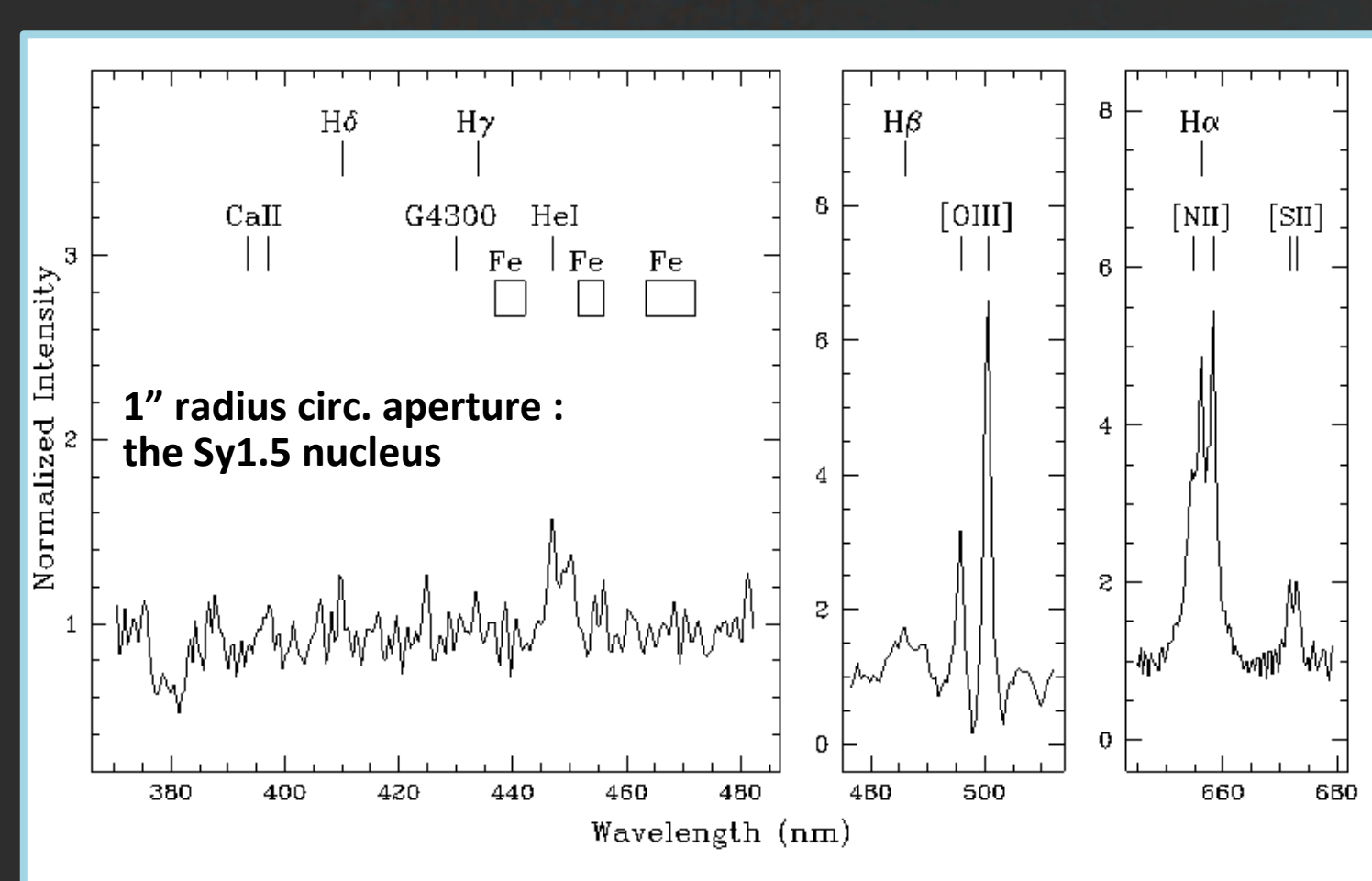
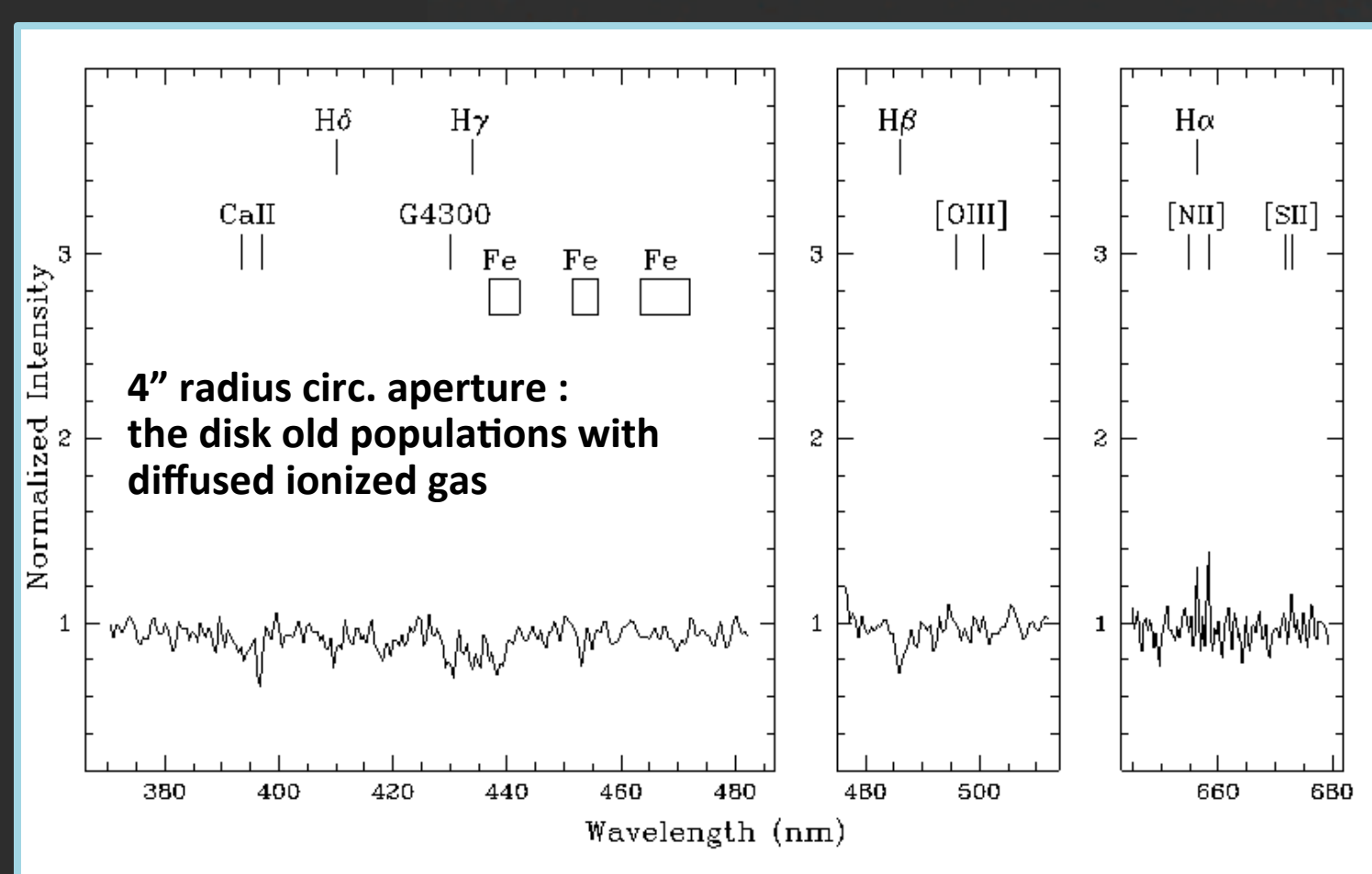
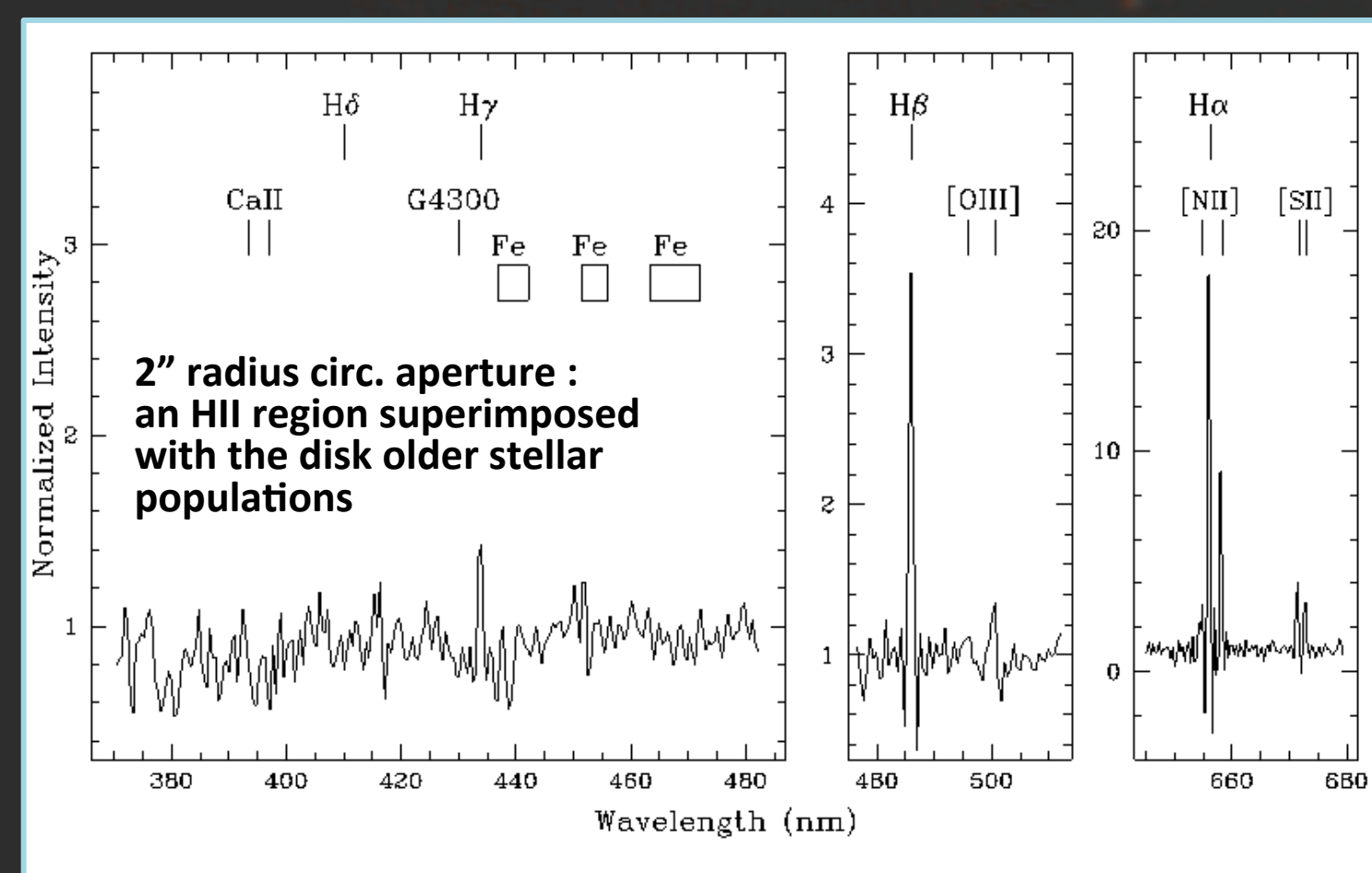
30"

## The E2 companion (NGC 3226) :

- C1 shows many old population indicators changing with the radius
- the LINER is seen in the center, with some diffused ionized gas

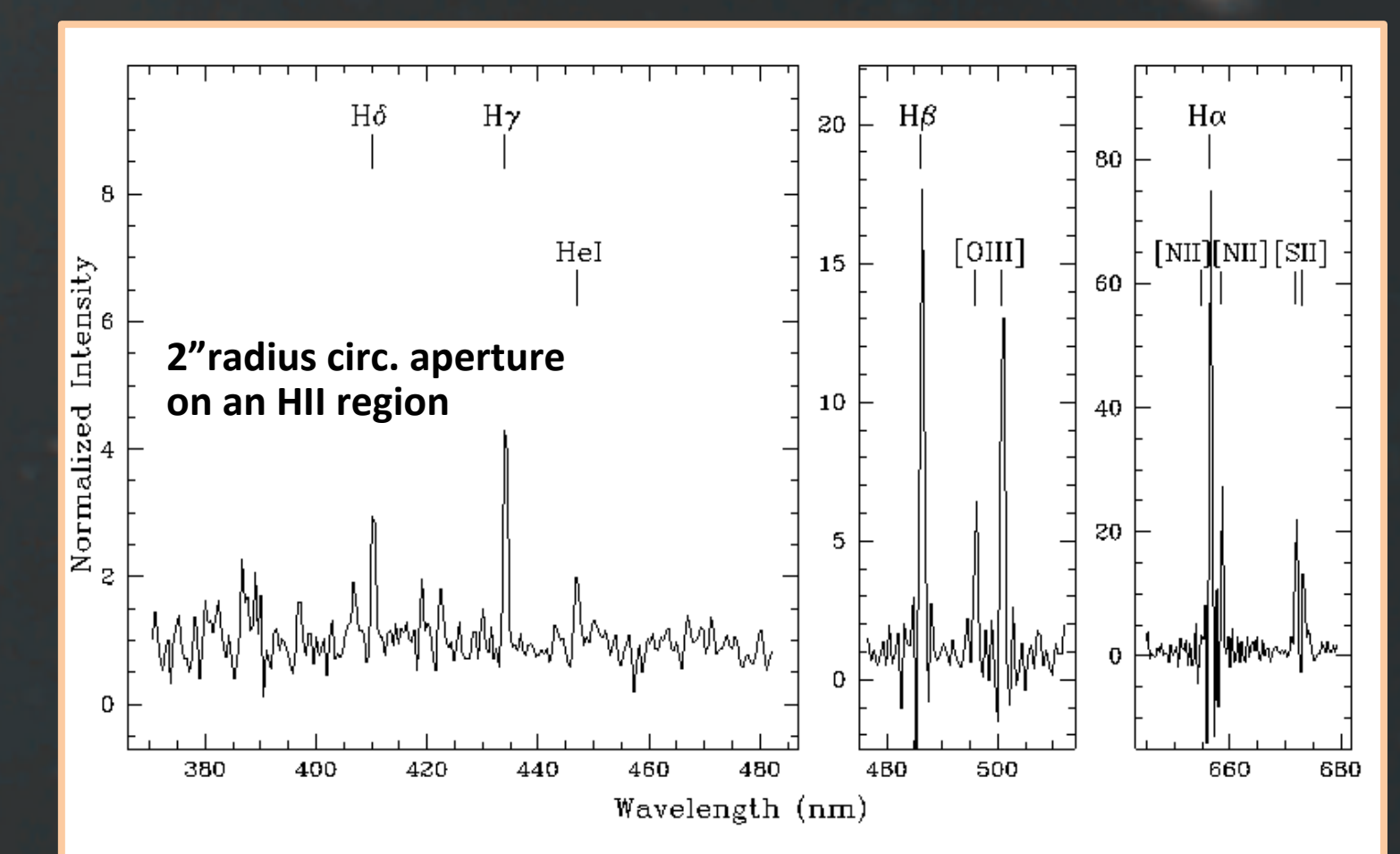
## The SAB(s)a galaxy (NGC 3227) :

- many young star-forming regions in the disk, seen from the emission lines
- old stellar populations in the disk according to the absorption lines CaII, Gband, Fe...

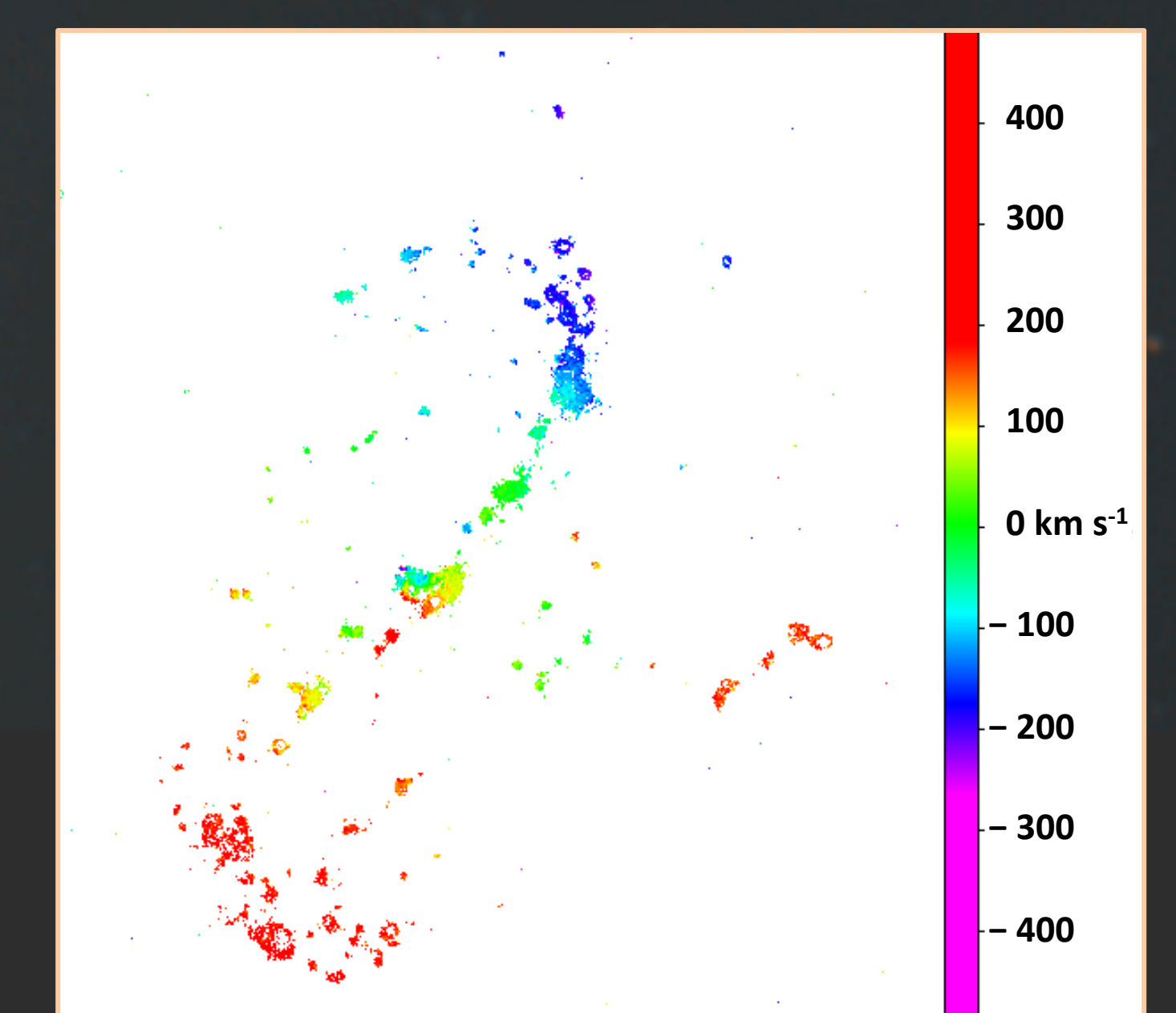


## The tidal dwarf galaxy :

- strong [OIII]/Hβ



## A rotation map from the Hα emission line (pixels with SNR > 7):



Arp94 is an ideal target to test SITELLE's performance with pure absorption lines and varying mixtures of emission and absorption lines over a large range of surface brightness and stellar population properties. With these data we aim at performing a detailed spectral synthesis analysis to trace the impact of the interaction on galaxy evolution.