

Starburst heating and synthetic ion column densities in multiphase galactic outflows

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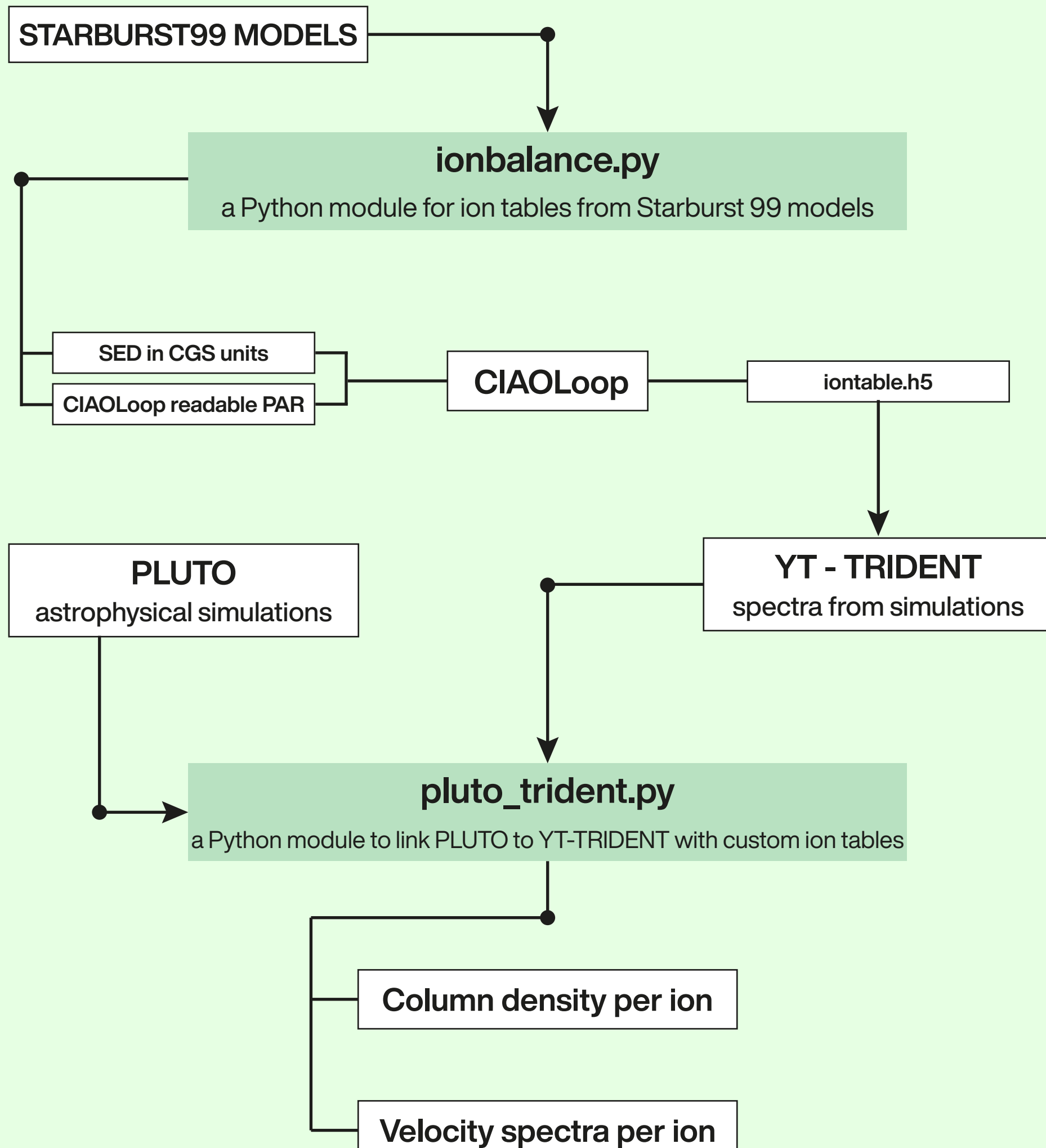
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INTRODUCTION

MHD simulations of galactic wind-cloud systems using PLUTO are used to extract observables in the form of velocity spectra and the generation of synthetic column densities. Two orientations of a magnetic field are tested and compared with different UV backgrounds for H I and N V. Main UV background is obtained from STARBURST99 models (fig4e) with the wind-cloud system is located at 50 kpc from the source. Spectral lines are analyzed to understand the effects of both factors.

CODE SCHEME



ADDITIONAL IONS

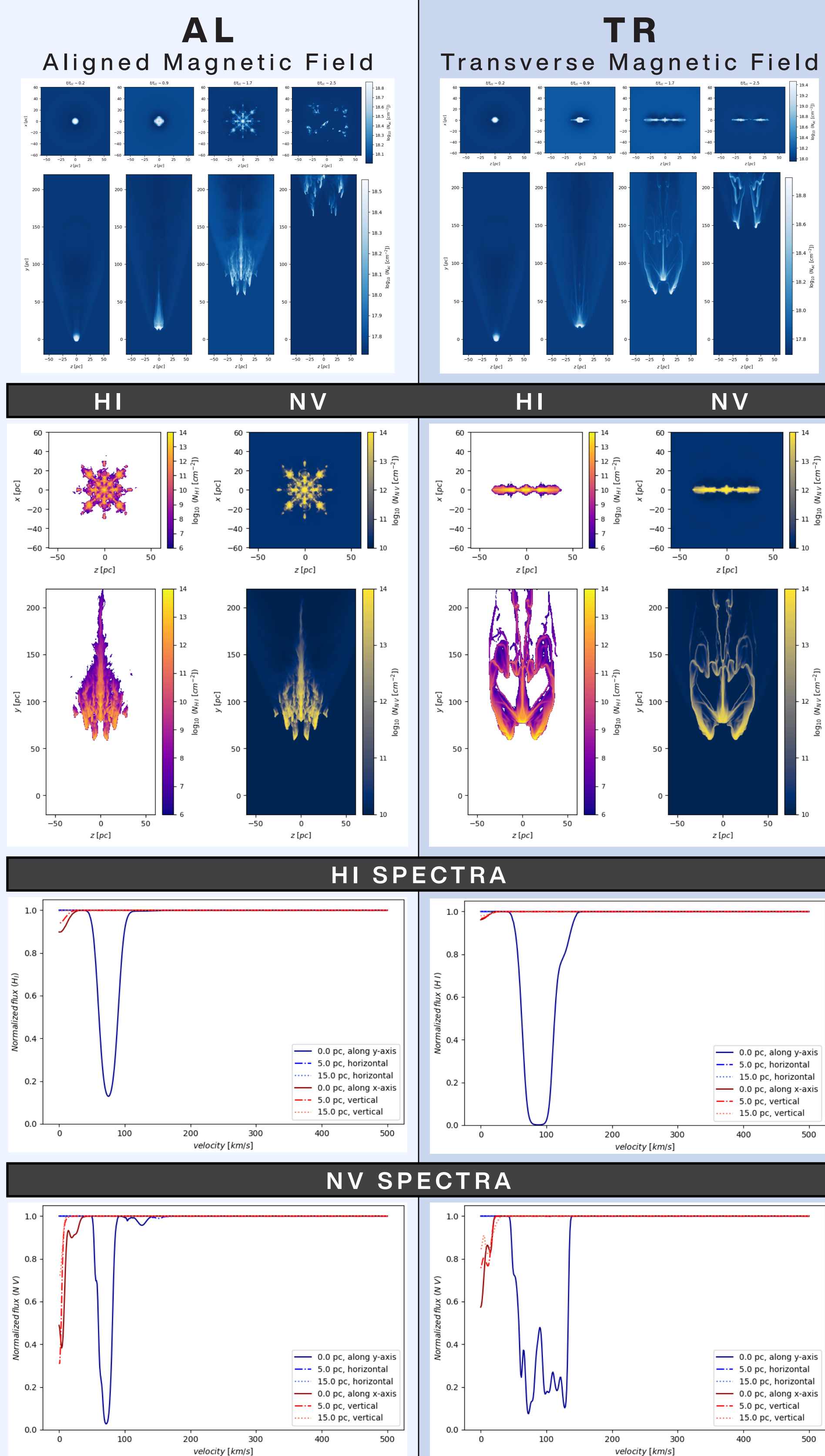


github.com/DanV-Y/iau_starburst

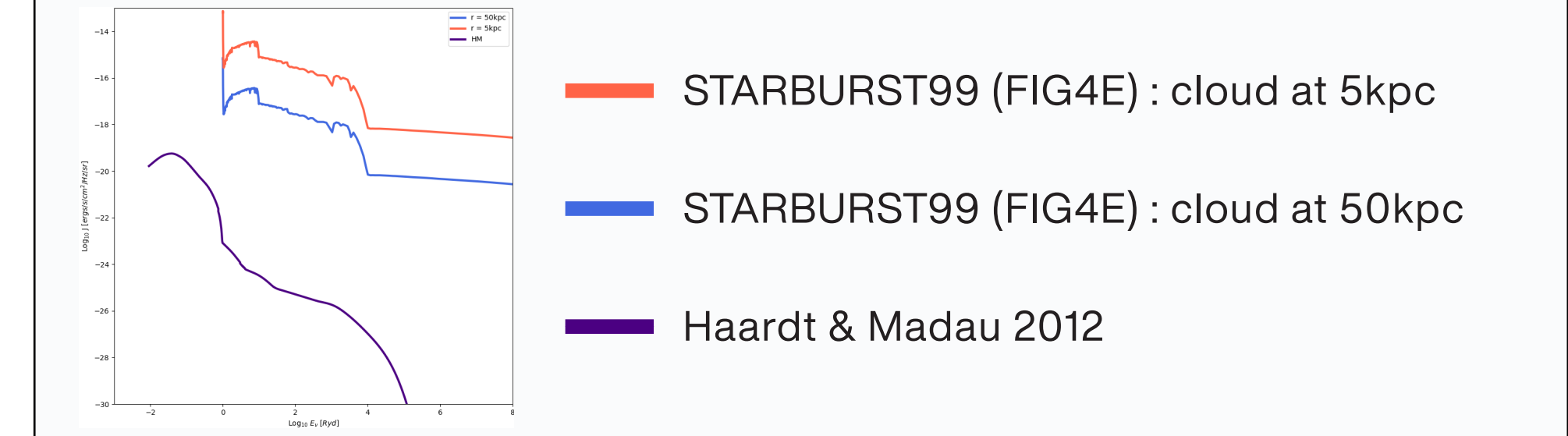


- C II, Fe II, Mg I, Mg II, N I, O I, S II, Si II
- C IV, Si IV
- O VI

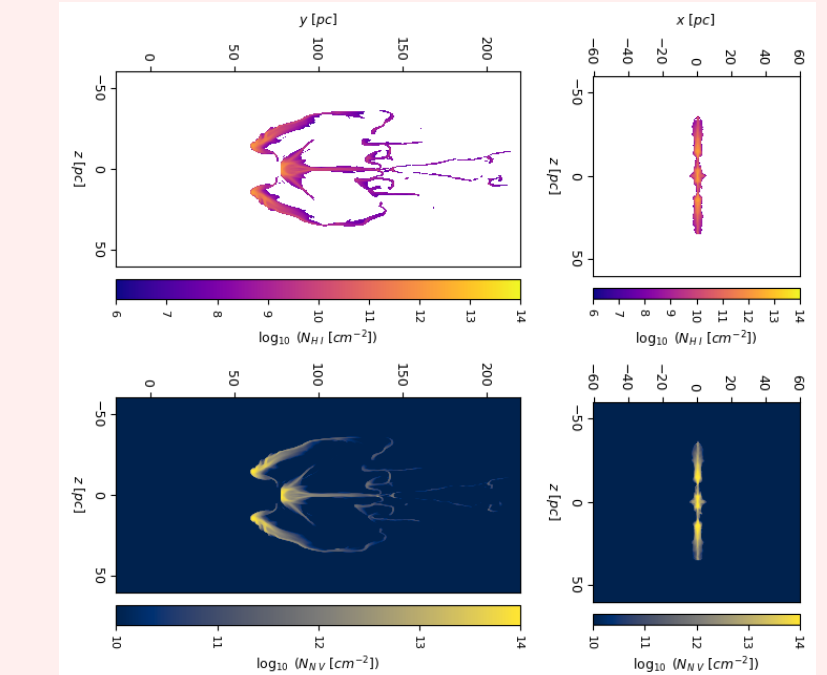
MAGNETIC FIELD EFFECTS



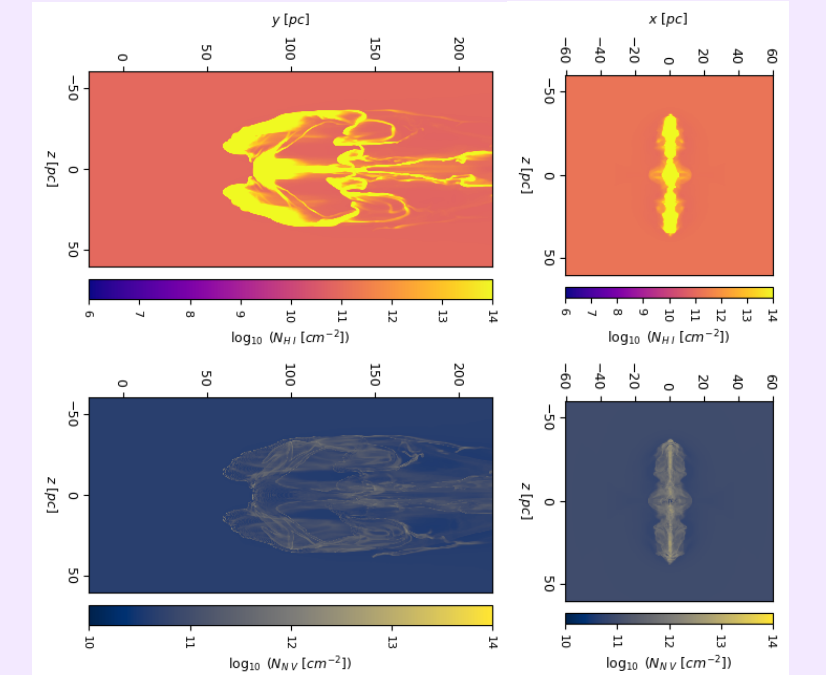
UV BACKGROUND EFFECTS



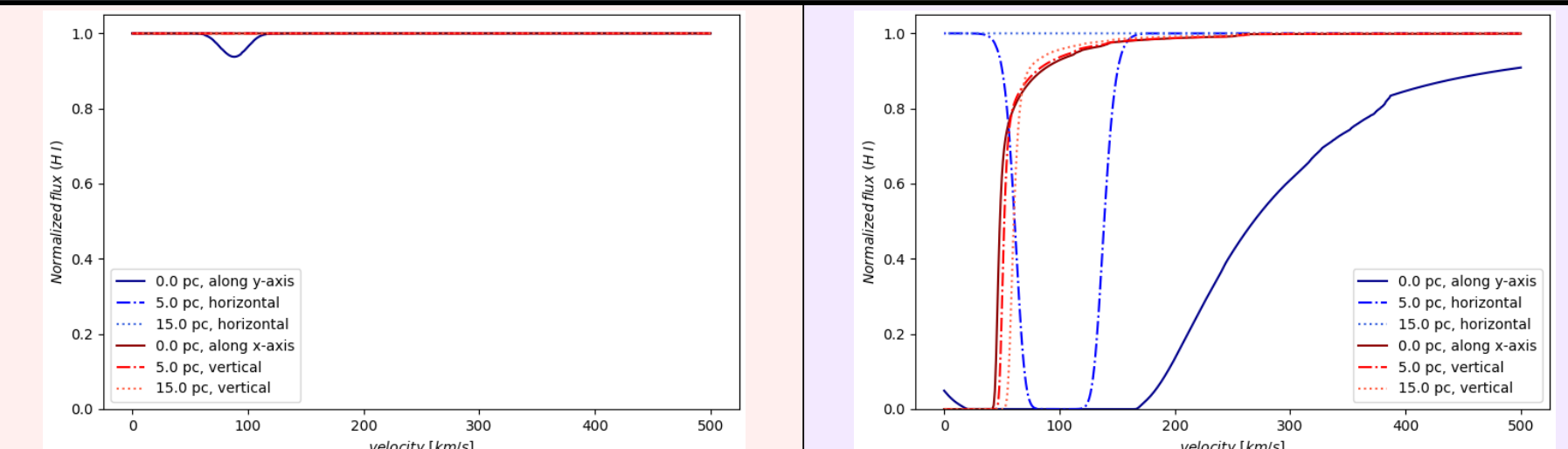
SB99 AT 5KPC



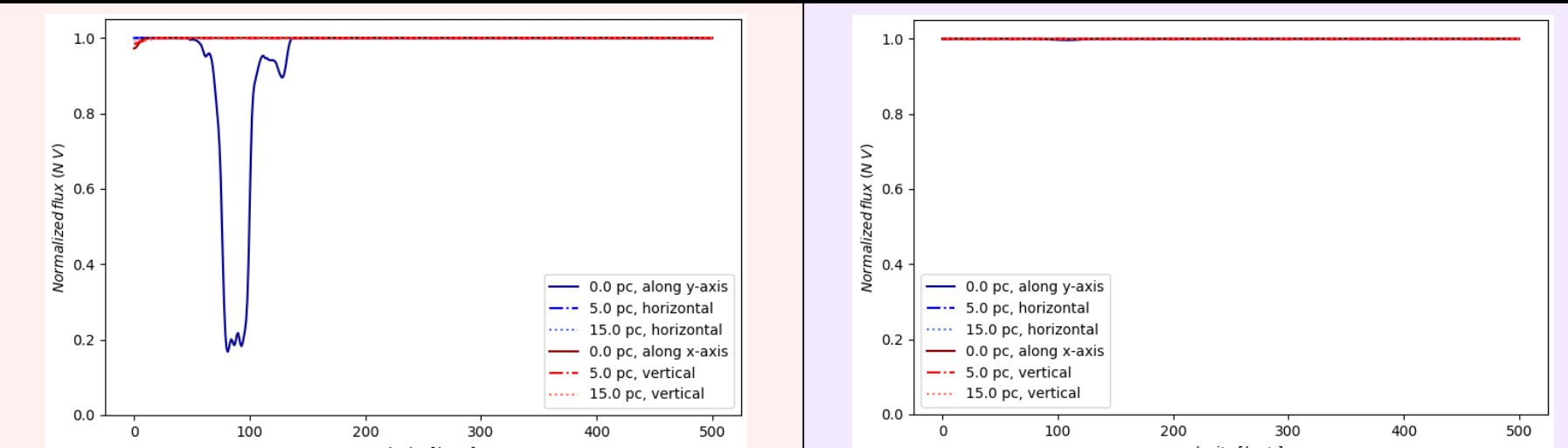
HM2012



HI SPECTRA



NV SPECTRA



CONCLUSIONS

The evolution of the wind-cloud system is influenced importantly by the orientation of the magnetic field. Transverse magnetic fields shield cold gas on the cloud. Distance from the source plays also an important role to determine the ions' signatures that can be found through spectra, as the metagalactic UV background is limited for clouds near starburst galaxies. In the future we plan to perform detailed comparisons with observational data.