

# Far-infrared line emission from the interstellar medium (ISM) of galaxies

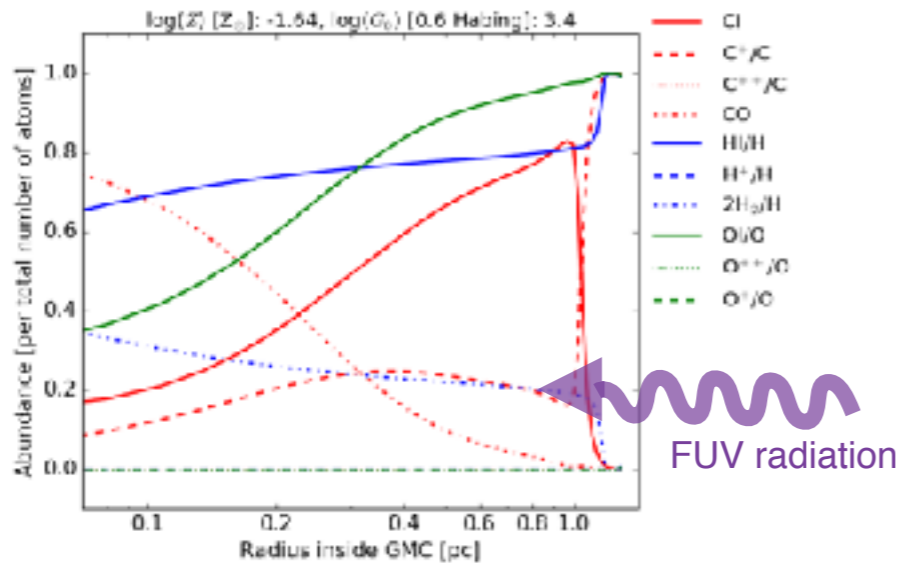
Follow the project at <http://kpolsen.github.io/sigame/> !!

... with **SIGAME**: Simulator of GALaxy Millimeter/submillimeter Emission

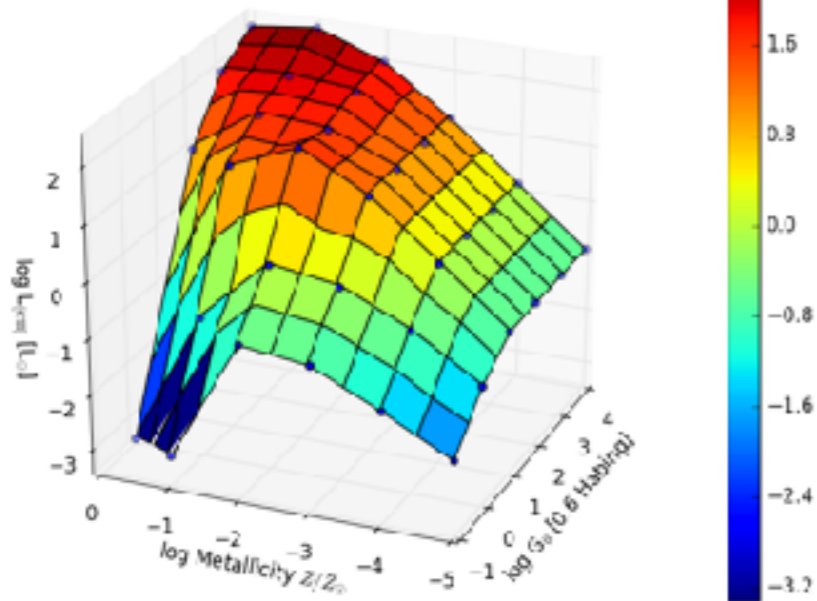
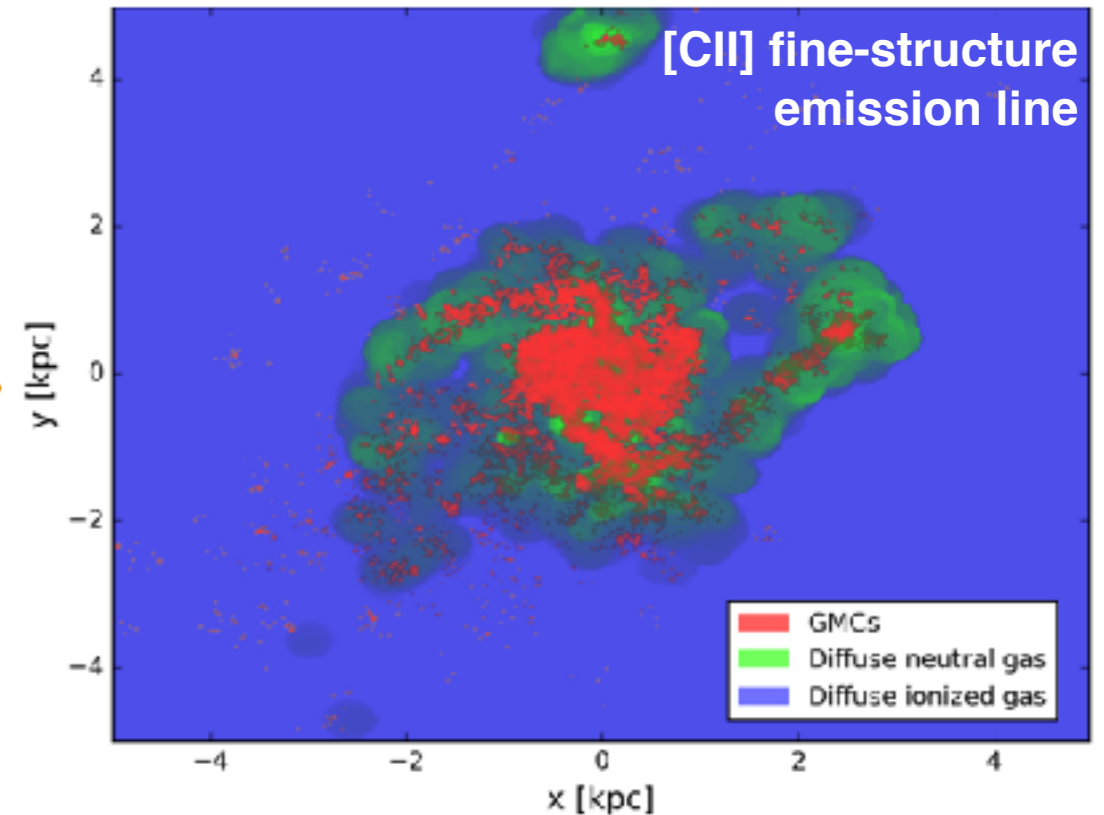


Using cloudy to model a grid of giant molecular clouds (GMCs) and diffuse gas clouds...

... to get line emission from different ISM phases in simulated galaxies (MUFASA suite Davé+16 MNRAS 462):



by interpolating in the grids of cloud models



$\log(L_{\text{CII}}) [L_{\odot}]$



I would like to better understand;

- how X-rays, cosmic rays and turbulence affect the gas,
- how to choose a decent spatial resolution (dlaw command),
- how to convert emission from a 1D column of gas to a 3D volume,
- why some models crash,
- .... and make new cloudy friends !!

Papers out on: [CII] emission at  $z = 2$  (Olsen+15, ApJ 814 76) and CO line emission at  $z = 2$  (Olsen+16, MNRAS 457 3)

(See also: <http://www.digame.online/> - Directory for Galaxy Millimeter/submillimeter Emission)