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Warm Absorbers group

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We are interested to model the x-ray absorbers (warm absorbers, WA) in AGNs. In this project, we simulate how the transmitted spectrum (fig. a) changes with the ionisation parameter of the absorbing cloud illuminated with a single power law continuum keeping other cloud parameters same. Additionally, we compare the transmitted spectra (fig. c) from two photoionisation codes : CLOUDY and TITAN for the constant total pressure cloud with the following parameters:

CLOUD Parameters:

- Ionisation parameter, log ξ=2 erg cm^{-1} s^{-1}
- number density at illuminated side, $n_0 = 10^9$ cm^{-3}
- column density, $N_h = 10^{22}$ cm^{-2}
- Incident SED: powerlaw, spectral index = -1.5
- plane parallel geometry

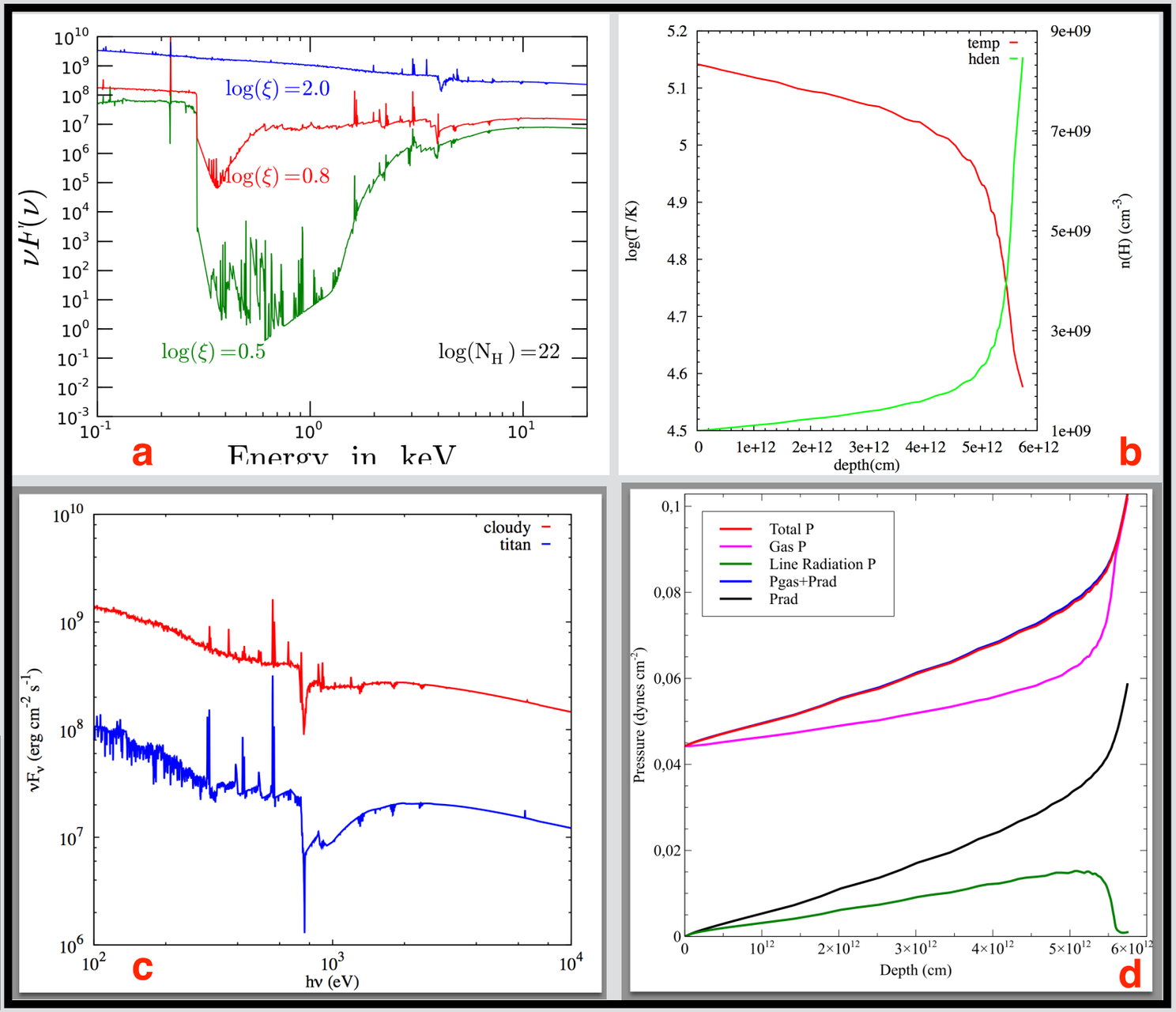

Fig. b shows the temperature and density structure of the photo-ionised cloud as a function of geometrical depth. In fig. d, we present how different contribution to the pressure changes with the increasing geometrical depth of the cloud as the radiation transfers and interacts with the matter present there. This work can be extended in future for more realistic modelling of WA and constraining the various parameters of the absorbing cloud.

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