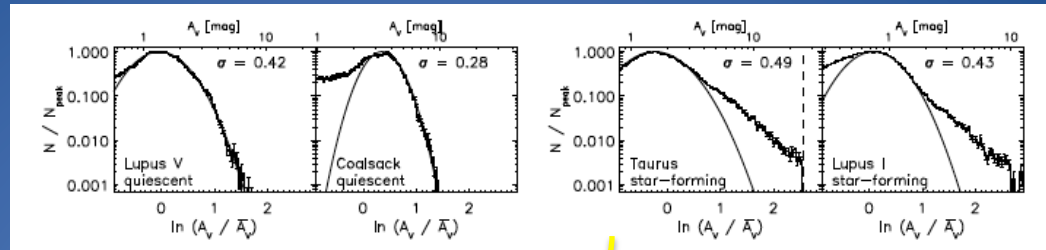
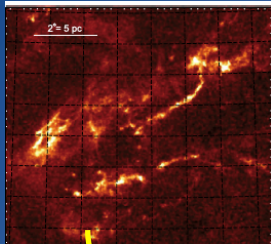


Filament density from pdf inversion



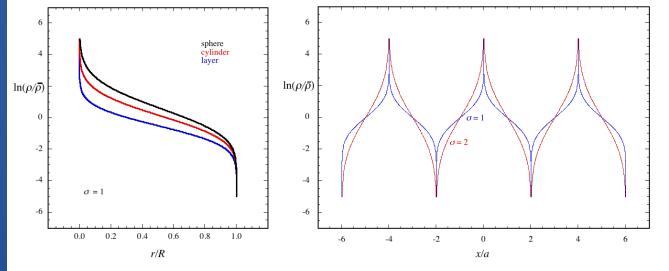
How are cloud structure and pdfs related?

Kainulainen et al. 2009

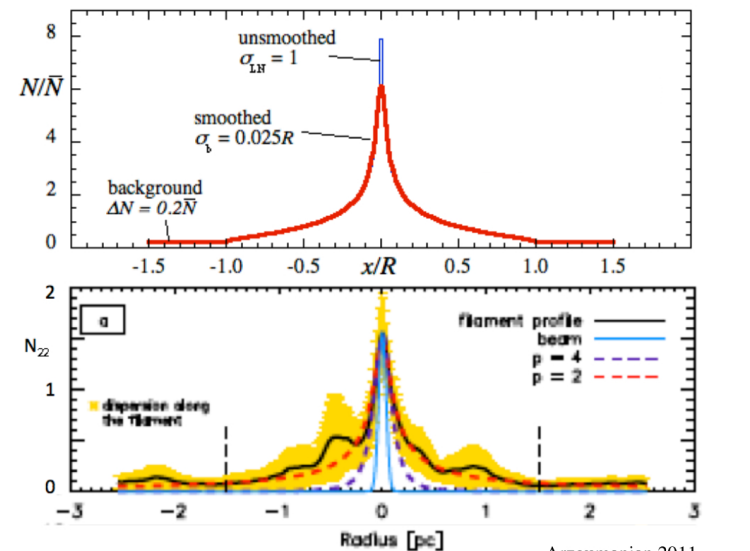
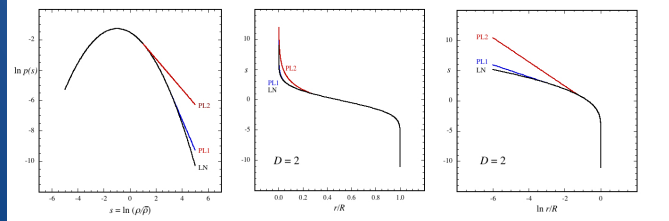
monotonic density structure & probability invariance:
invert LN, LNPL pdf to get density profile
in spherical, cylindrical, or planar symmetry

column density profile with beam smoothing and background resembles typical observed filament profile for cylindrical symmetry (rods) or planar symmetry (ribbons)

Structures having lognormal pdf of density



Lognormal pdf with power law tail implies that density profile is a truncated power law



Arzoumanian 2011