



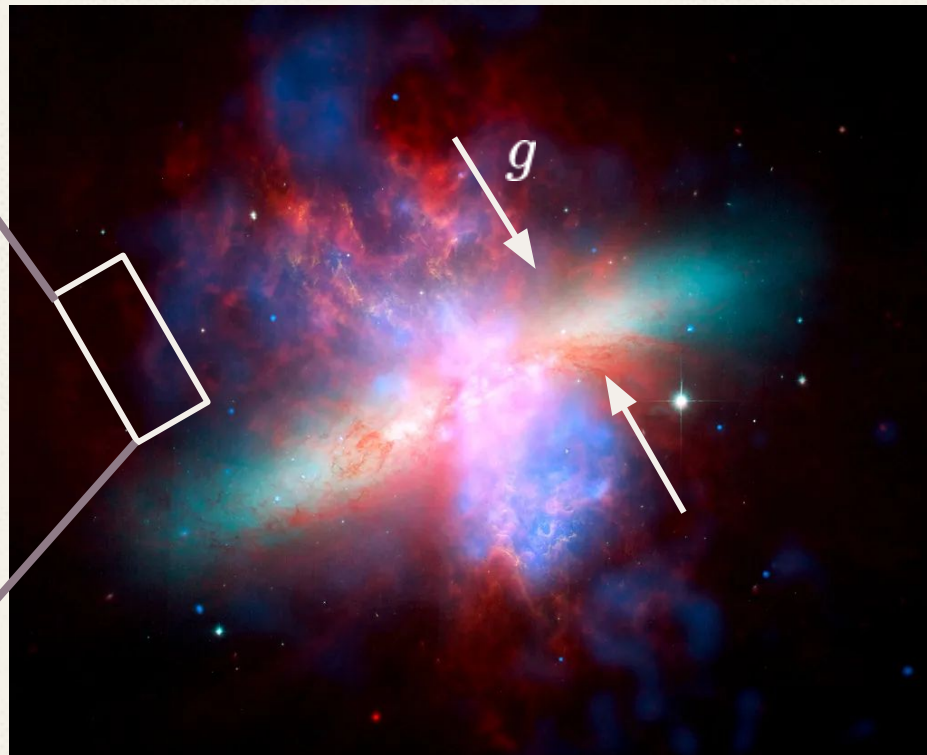
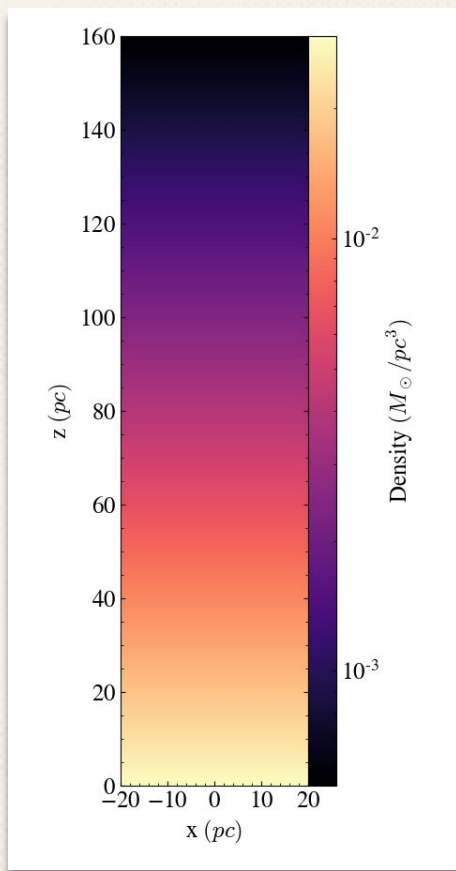
Multiphase Turbulence in a Stratified Medium

— *Tapan Mayukh*

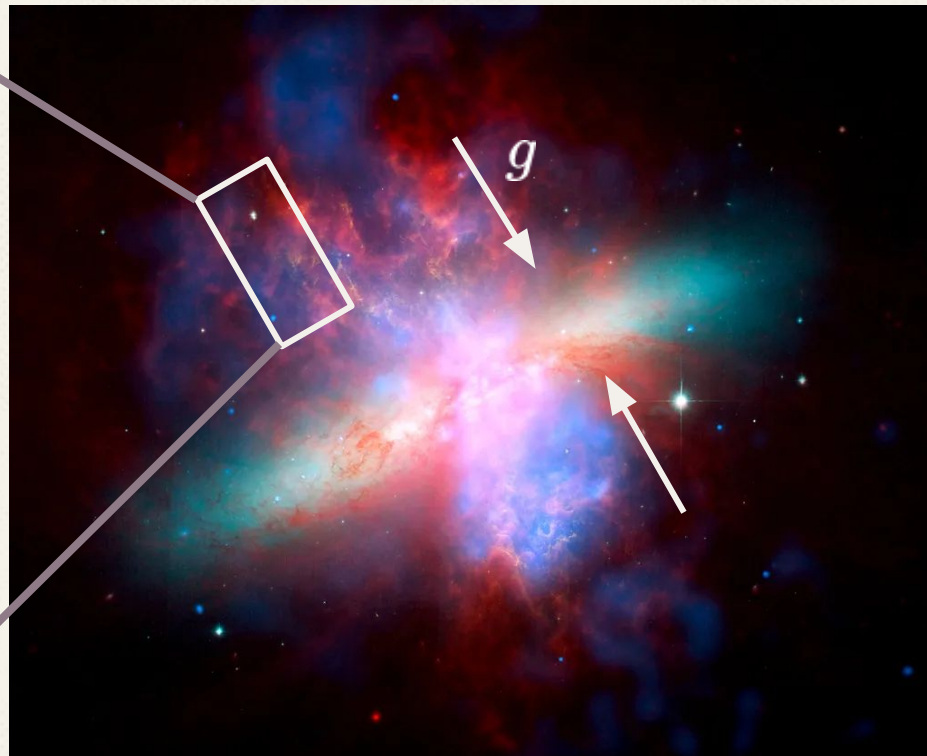
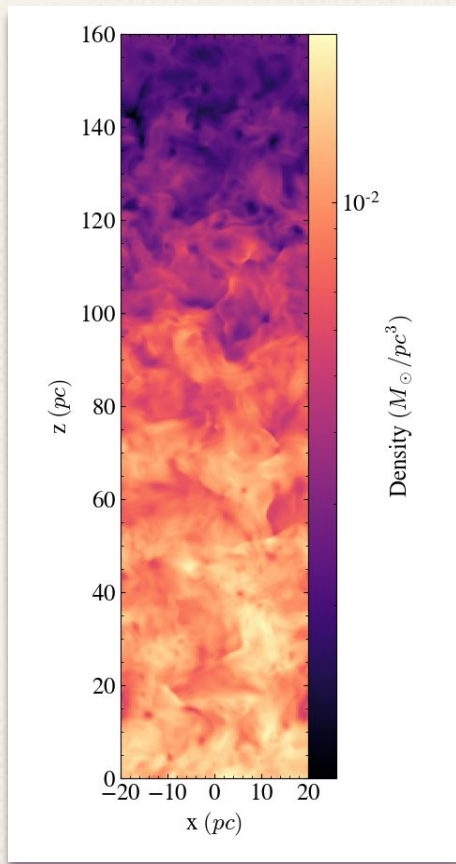
Supervisors:

- *Dr Max Grönke (Multiphase Gas Group, MPA)*
- *Prof Dr Klaus Dolag (CAST, USM / MPA)*

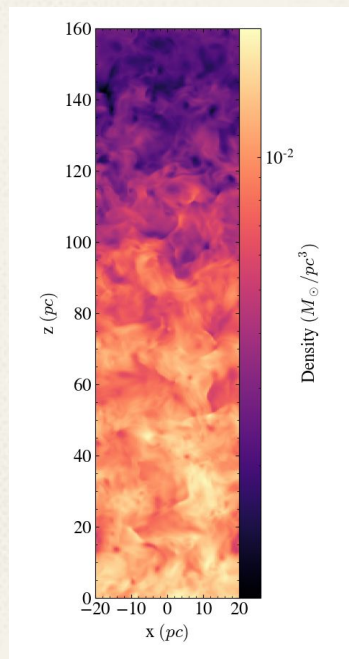
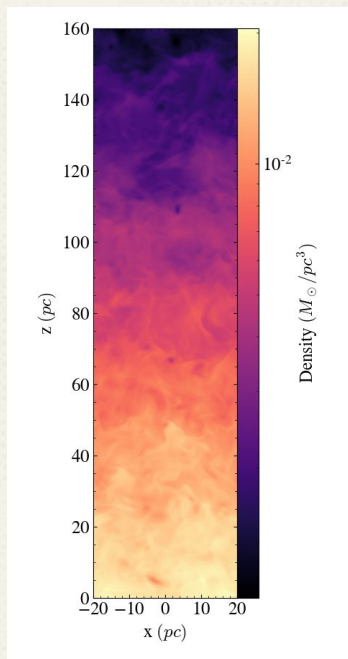
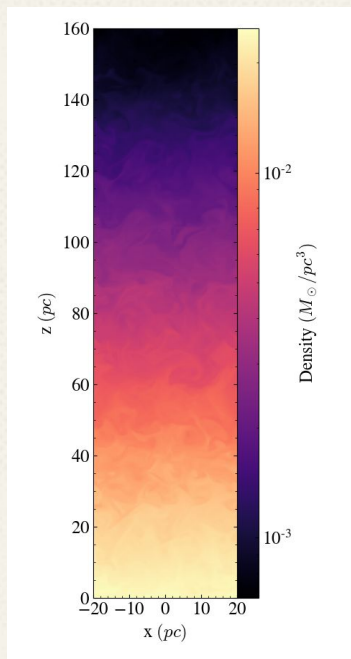
Stratified Medium



Turbulence in a Stratified Medium



Turbulence in a Stratified Medium

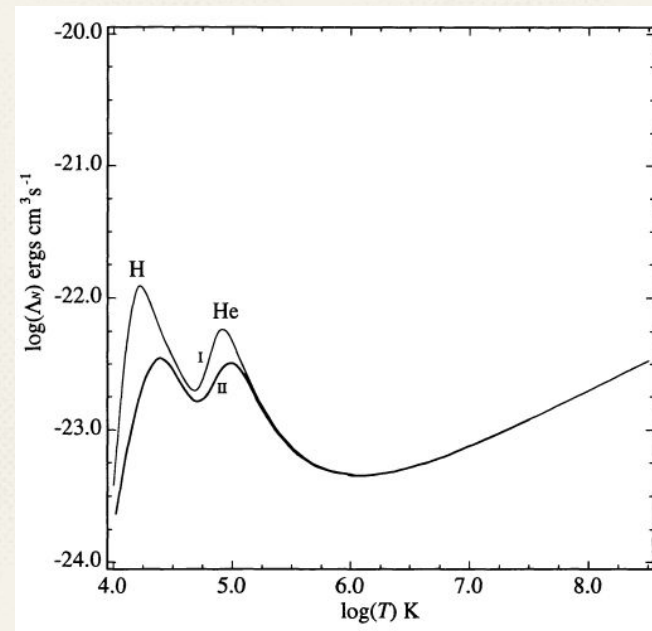


$$\mathcal{M} = \frac{v}{c_s}$$
$$c_s = \sqrt{\frac{k_B T}{\mu m_H}}$$

→

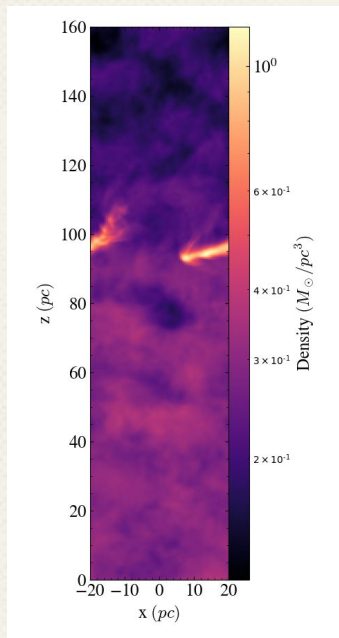
$$\mathcal{M} \in \{0.2, 0.5, 0.9\}$$

Multiphase Gas

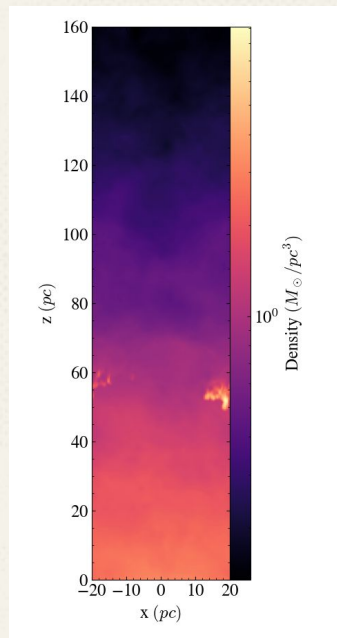


Sutherland and Dopita (1993)

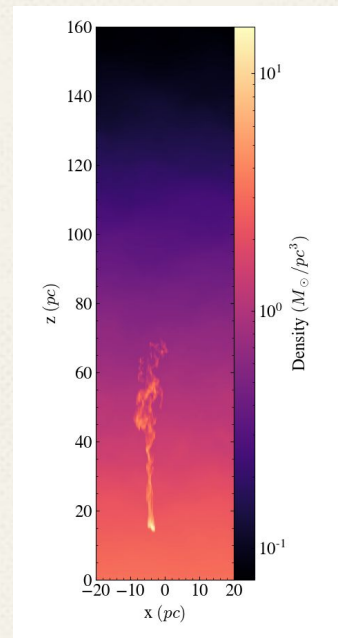
Cloud Evolution



$H = 160$ pc
 $M = 0.9$
 $r_{cl} / l_{shatter} = 1$

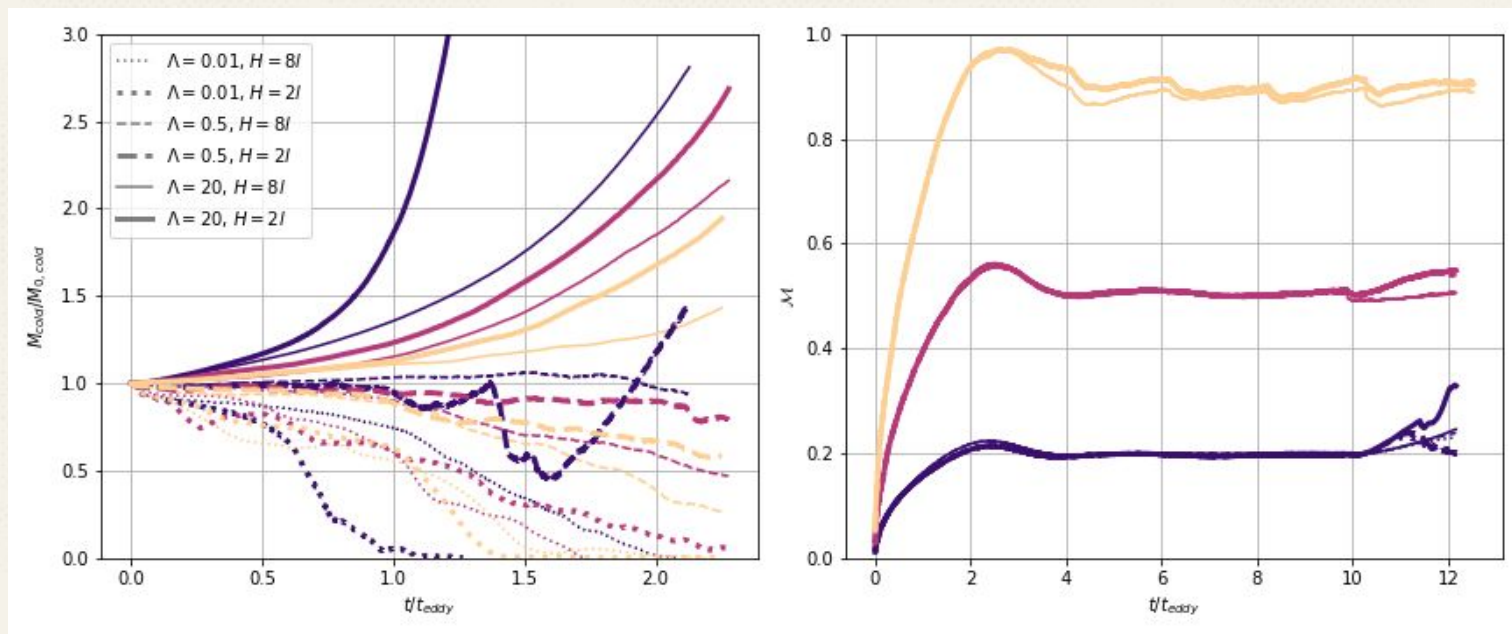


$H = 40$ pc
 $M = 0.5$
 $r_{cl} / l_{shatter} = 50$



$H = 40$ pc
 $M = 0.2$
 $r_{cl} / l_{shatter} = 2000$

Cloud Growth and Destruction



Thank You!