**CONSTRAINTS ON SF EFFICIENCY**

- Strong consensus of recent measurements with several independent techniques: \( \varepsilon_{\text{ff}} \approx 0.3 - 1\% \), no evidence for clouds with larger values.

Heyer+ 2016: star counts in MW clouds (also Krumholz+ 2012, Vutisalchavakul+ 2016)

Leroy+ 2017: pixel statistics in nearby galaxies

Onus+ 2018: HCN-IR correlation (also Usero+ 2015, Gallagher+ 2018)
CONSTRANTS ON INTEGRATED SF EFFICIENCY

- Integrated SF efficiency related to clustering: high eff. \( \Rightarrow \) bound cluster

- No observed galaxy has \( \approx 10\% \) of stars still in clusters that live \( > 10 \) Myr

Krumholz, McKee, & Bland-Hawthorn, ARA&A in prep
IR RADIATION PRESSURE: DOES IT MATTER?

- IR radiation can drive outflows, but only if $T_{\text{IR}} \gtrsim 1$ and $f_E \gtrsim 1$ using opacity computed at $T_{\text{eff}}$, not $T_{\text{mid}}$

- IR may set truncate KS relation, otherwise unimportant

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**Figure 1.**

- The thick green curve shows the same quantity computed in the limit that radiation-dominated convection transports no more heat than laminar radiative transfer. The true stability condition must lie between these limits, in the region labeled critical zone. The thick blue line corresponds to the case of a gas fraction $f_{\text{gas}} = 0$,

- The observations have been homogenised to a local galaxies from a variety of sources: local galaxies from Bouché et al. (2005), Tacconi et al. (2007, 2010), and Daddi et al. (2005, 2010, 2013, 2017).

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Crocker+ 2018
DIRECT UV RADIATION PRESSURE: DOES IT MATTER?

- Still not sure... best guess: maybe not by itself, but maybe in conjunction with other feedback mechanisms. I do not trust current simulations very much...

Thompson & Krumholz 2016

Krumholz 2018