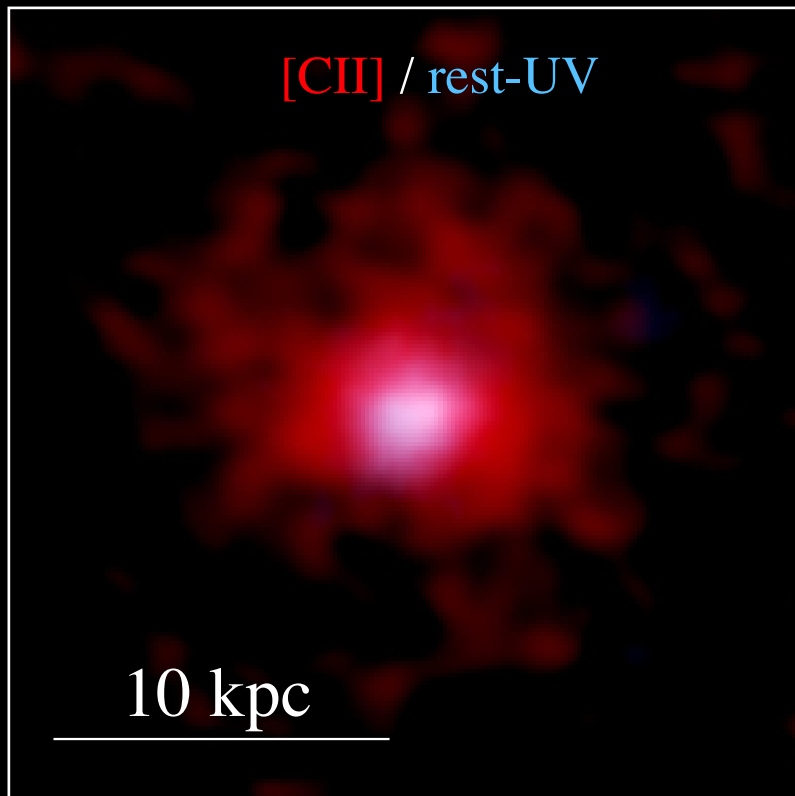
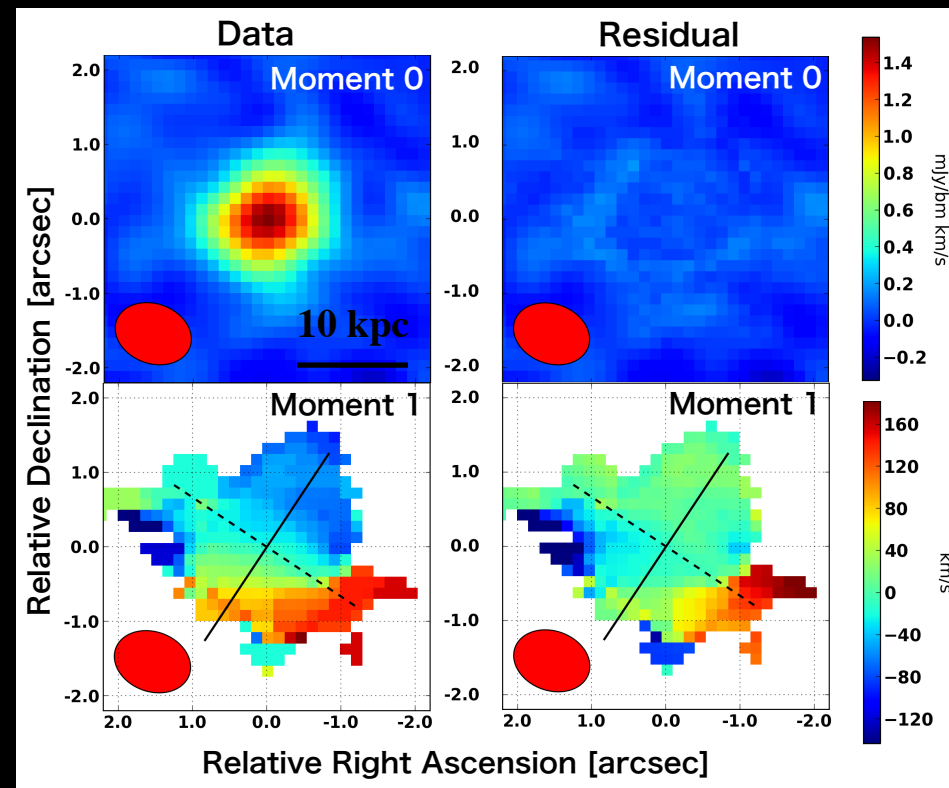


ALMA Deep View from Interstellar & Circumgalactic Media to Cosmic Scales in Early Universe

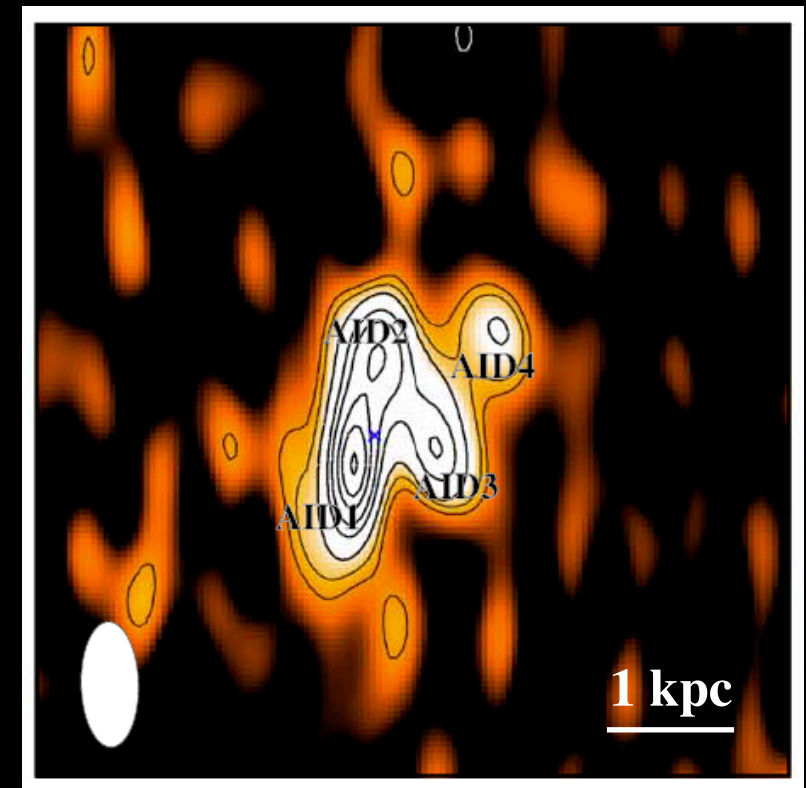
Seiji Fujimoto (DAWN Fellow)



Stacked [CII] vs. rest-UV at $z=5-7$
(Fujimoto+19a)



Rotation & outflow signatures of [CII] Halo
(Fujimoto+20b)



Dusty clump structure in quasar host
(Fujimoto+20a)

1. Detail morphology+kinematic studies for $z > 4-6$ galaxies & quasars with ALMA
2. Discovery of $r \sim 10-15$ kpc [CII] Halo at $z=6$ & Clumpy ISM structure in the most supermassive blackhole host at $z > 6$ & ALMA Lensing Cluster Survey
3. Dual measurements of [CII] & Ly α Halos around early galaxies & quasars
4. ALMA cycle 8 proposals: Deep [CII] Halo for ALPINE (Sune, Pascal, Desika+) & luminous quasars with Ly α Halo (Fabian+)