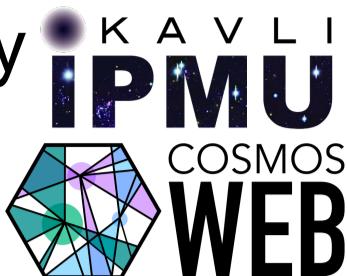


# JWST and ALMA discern the assembly of structural and obscured components in a high-redshift starburst galaxy

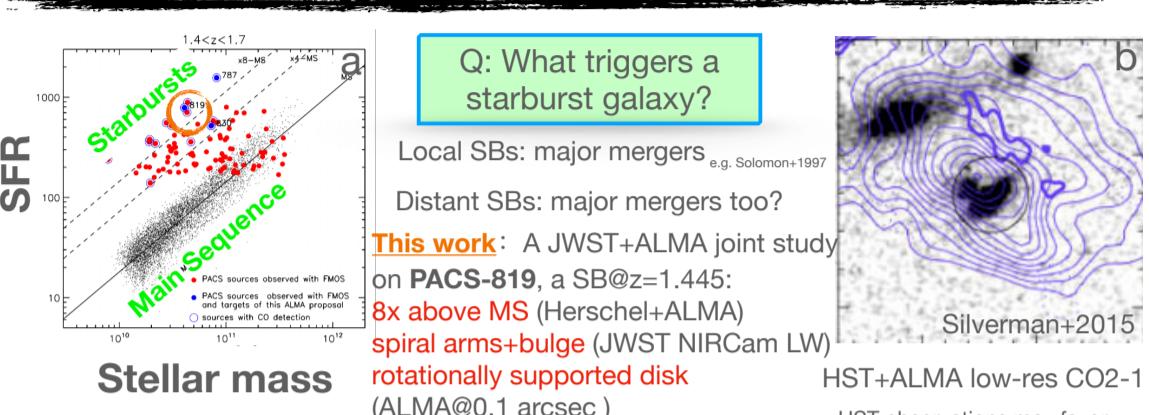


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Emanuele Daddi (CEA-Saclay), Annagrazia Puglisi (U Southampton),  
Alvio Renzini (INAF) and other 25 members in COSMOS

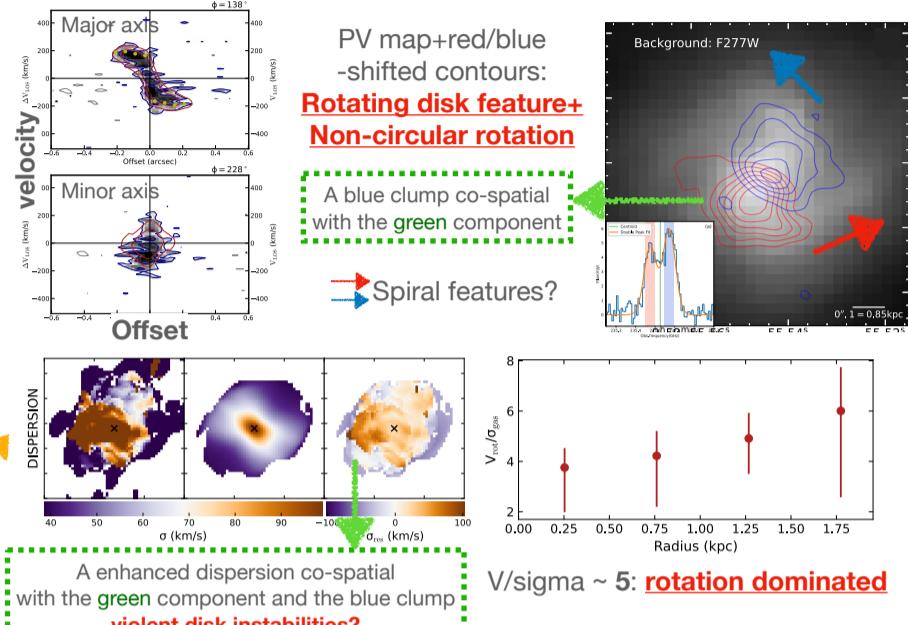
Resolving the Extragalactic Universe with ALMA & JWST, Nov.6-10,2023,Tokyo,Japan



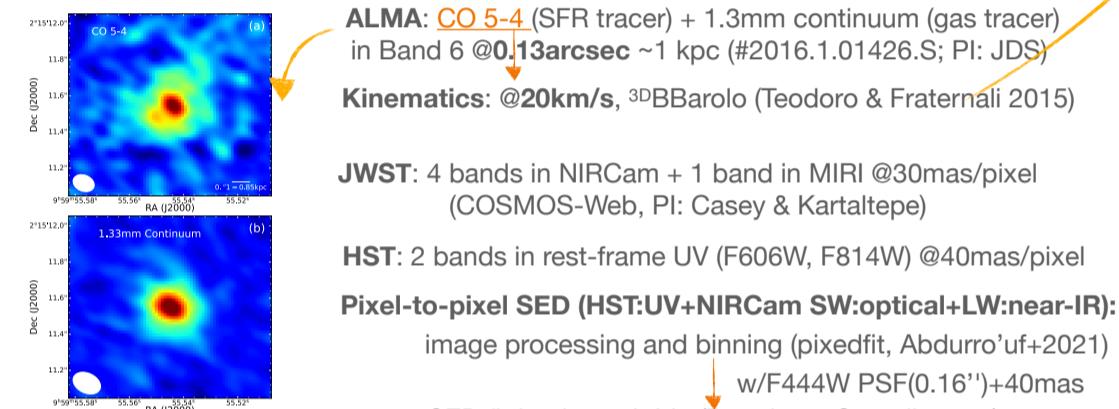
## 1. Introduction



## Kinematics with ALMA using CO J=5-4

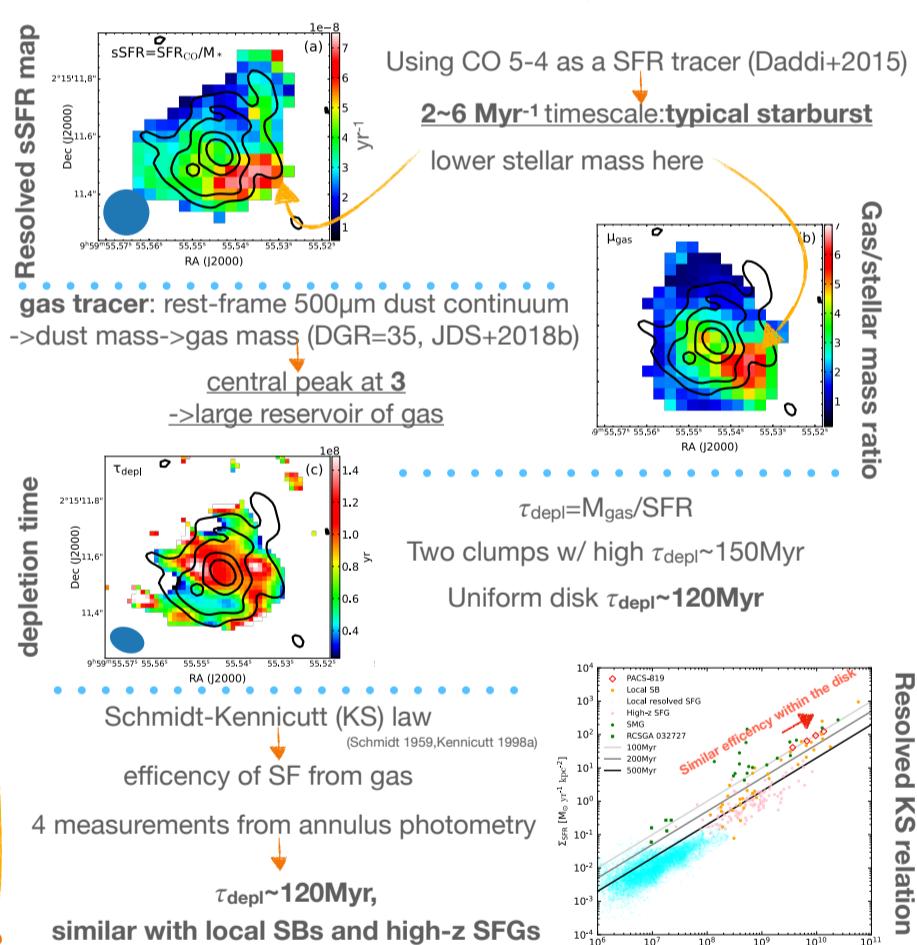


## 2. Data & Analysis



## 4. Results:

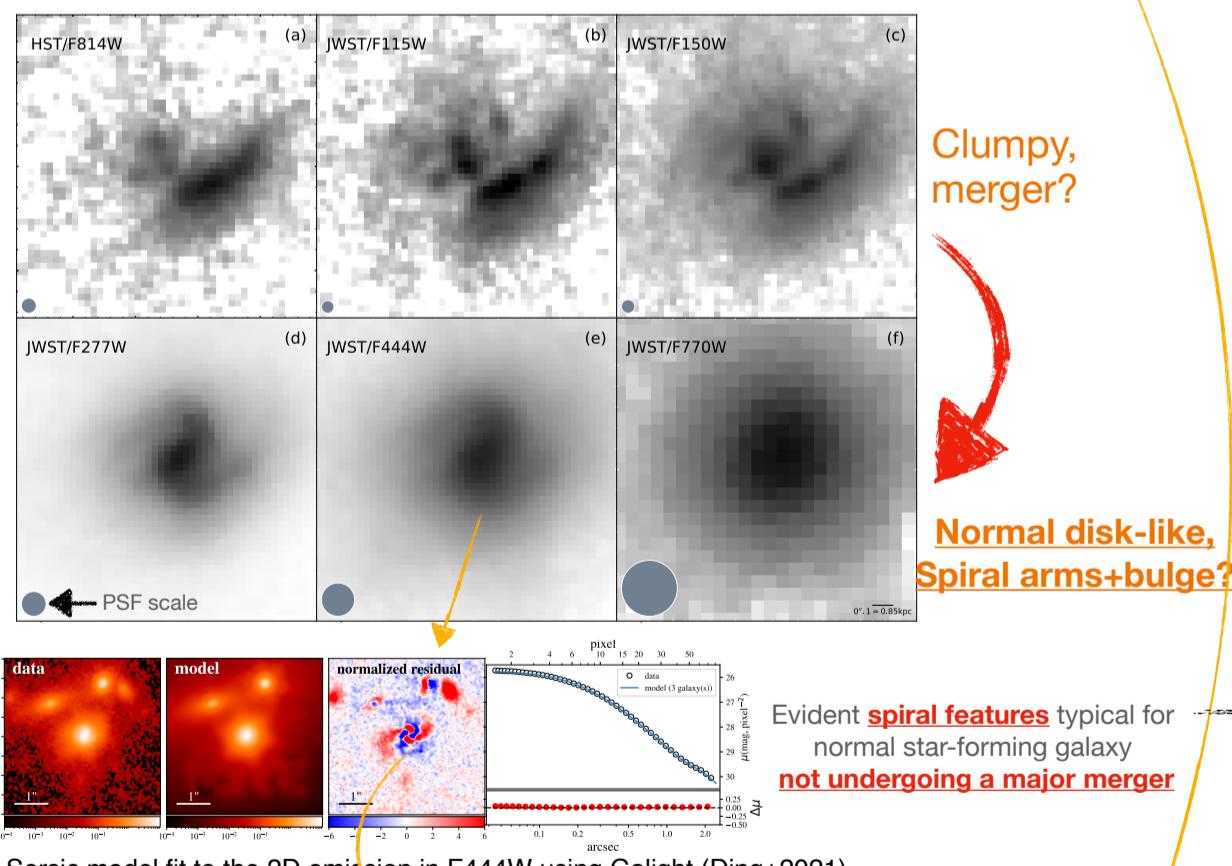
### II. Spatially-resolved Properties of the ISM and Obscured Stellar Populations



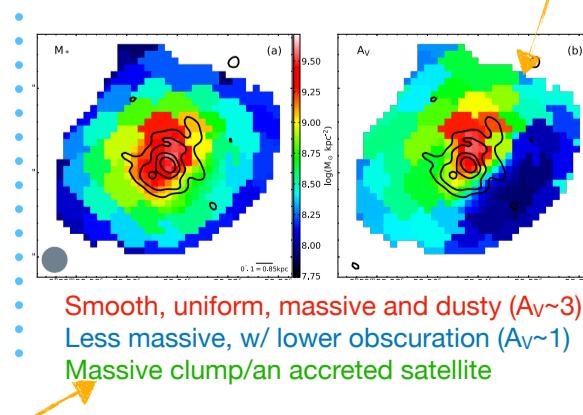
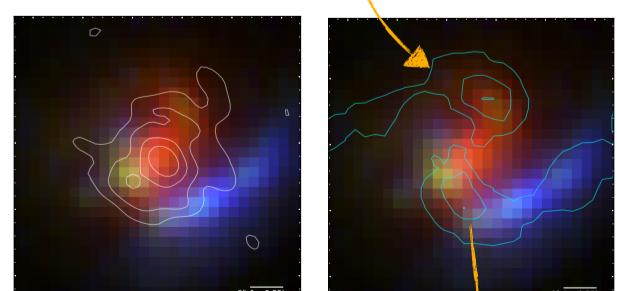
## 3. Results:

### I. The Structural Nature of PACS-819

#### Unveiling the stellar components with JWST



Sersic model fit to the 2D emission in F444W using Galight (Ding+2021)



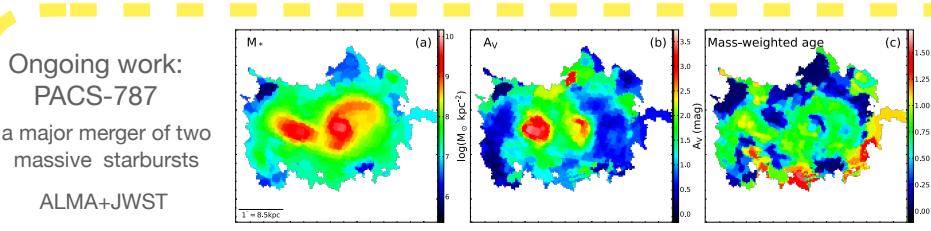
## 5. Summary:

We present JWST and ALMA observations of PACS-819, delving into the SB's mass, morphology, and star formation @1kpc

PACS-819 displays a **spiral-like morphology** and exhibits a kinematic profile of a **rotationally supported disk**, suggesting it is **not undergoing a major merger**

A CO clump detected by ALMA, separate from the main disk, hints at **violent disk instabilities/minor merger** as a possible driver for the starburst activity

The core of PACS-819 is characterized by a **high concentration of gas and dust with a central kpc, rapid star formation rates, and short depletion times**, leading to swift central stellar mass buildup.



pixel-to-pixel SED fitting results