

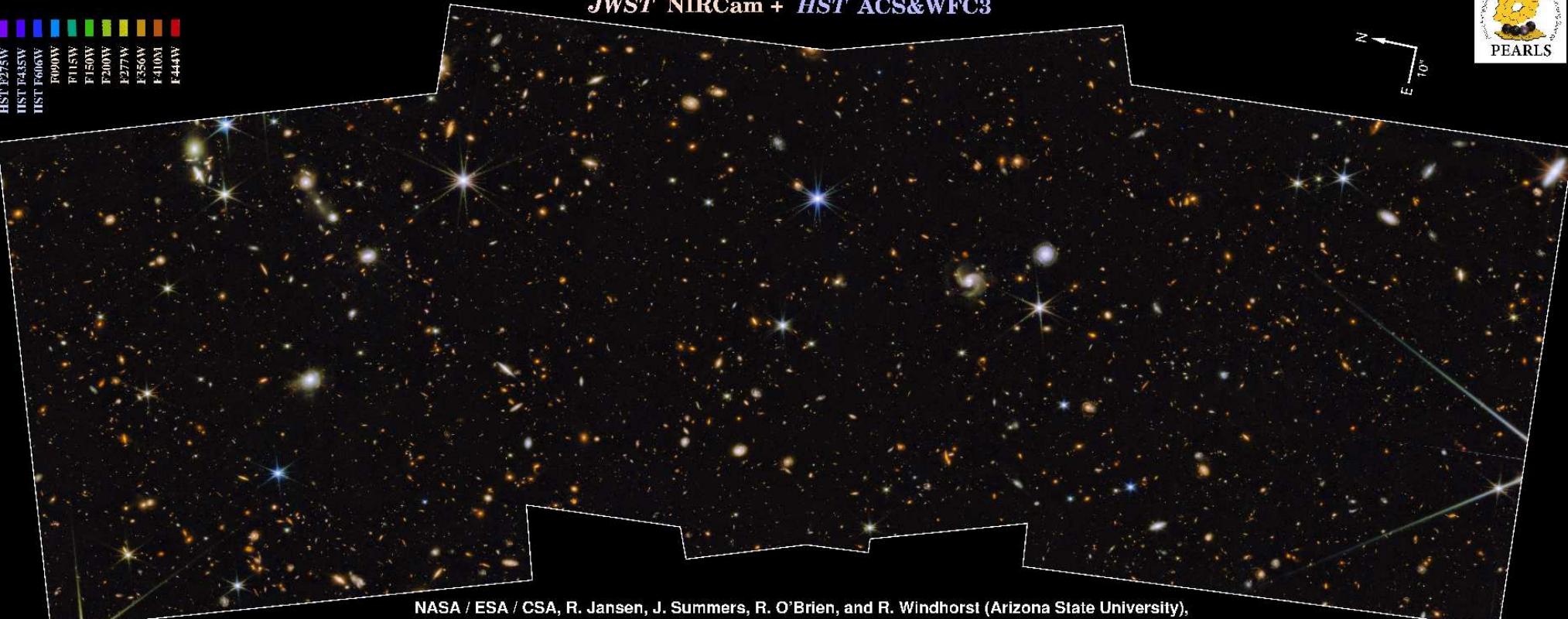
The Crown Jewels of the JWST PEARLS Project

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+JWST PEARLS team: T. Carleton, S. Cohen, R. Jansen, P. Kamieneski, T. Acharya, H. Archer, J. Berkheimer, D. Carter, N. Foo, R. Honor, D. Kramer, T. McCabe, I. McIntyre, R. O'Brien, R. Ortiz, J. Summers, S. Tompkins, C. Conselice, J. Diego, S. Driver, J. D'Silva, B. Frye, H. Yan, D. Coe, N. Grogin, W. Keel, A. Koekemoer, M. Marshall, N. Pirzkal, A. Robotham, R. Ryan Jr., C. Willmer + 100 more scientists over 18 time-zones

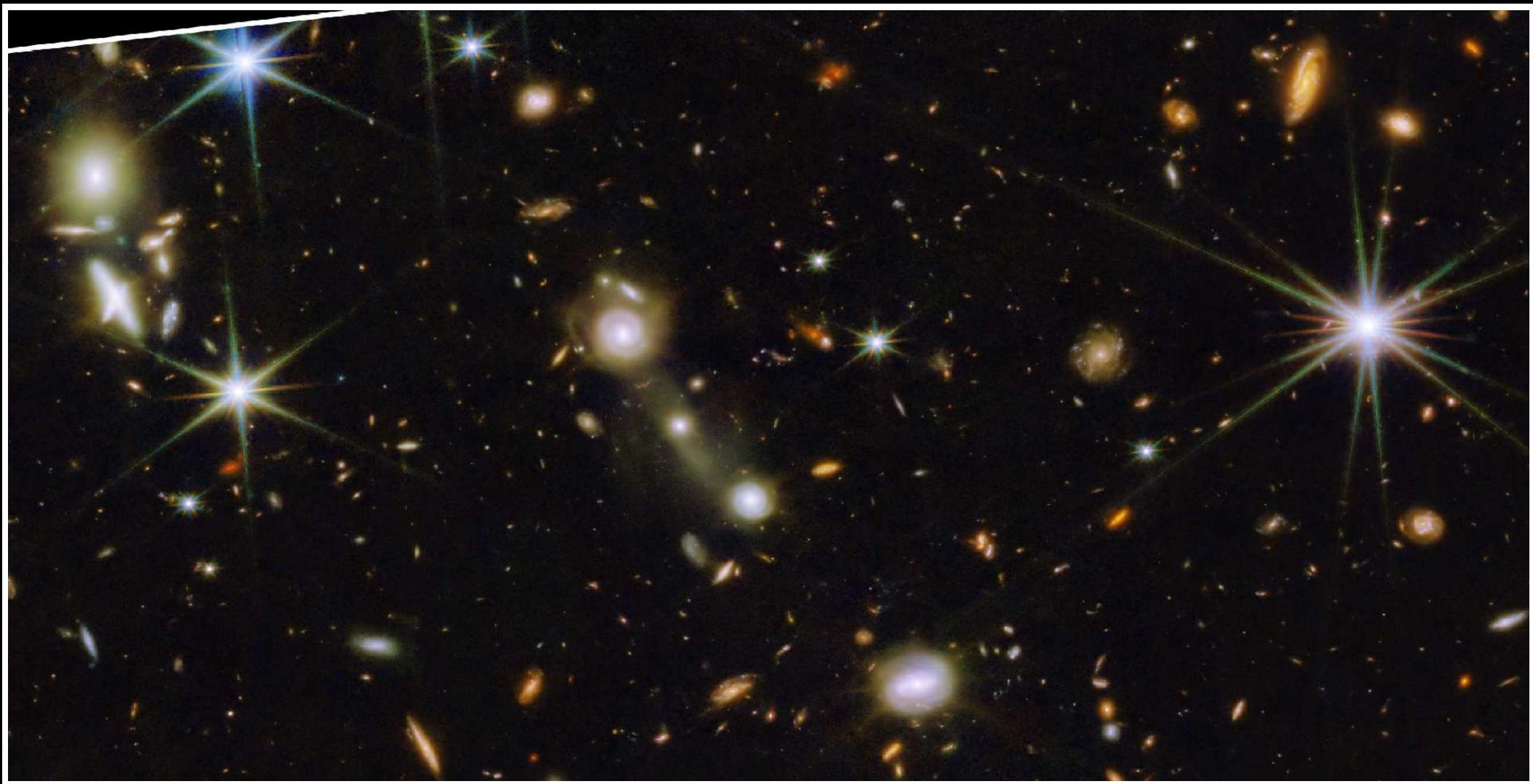
JWST North Ecliptic Pole Time Domain Field – Spoke 1
JWST NIRCam + HST ACS&WFC3

HST F275W
HST F435W
HST F606W
F090W
F115W
F150W
F200W
F277W
F336W
F410M
F444W



SESE Symposium, Wednesday Aug. 16, 2023 (ASU, Tempe, AZ)

PEARLS = Prime Extragalactic Areas for Reionization and Lensing Science (Windhorst⁺ 2023, AJ, 165, 13; astro-ph/2209.04119).



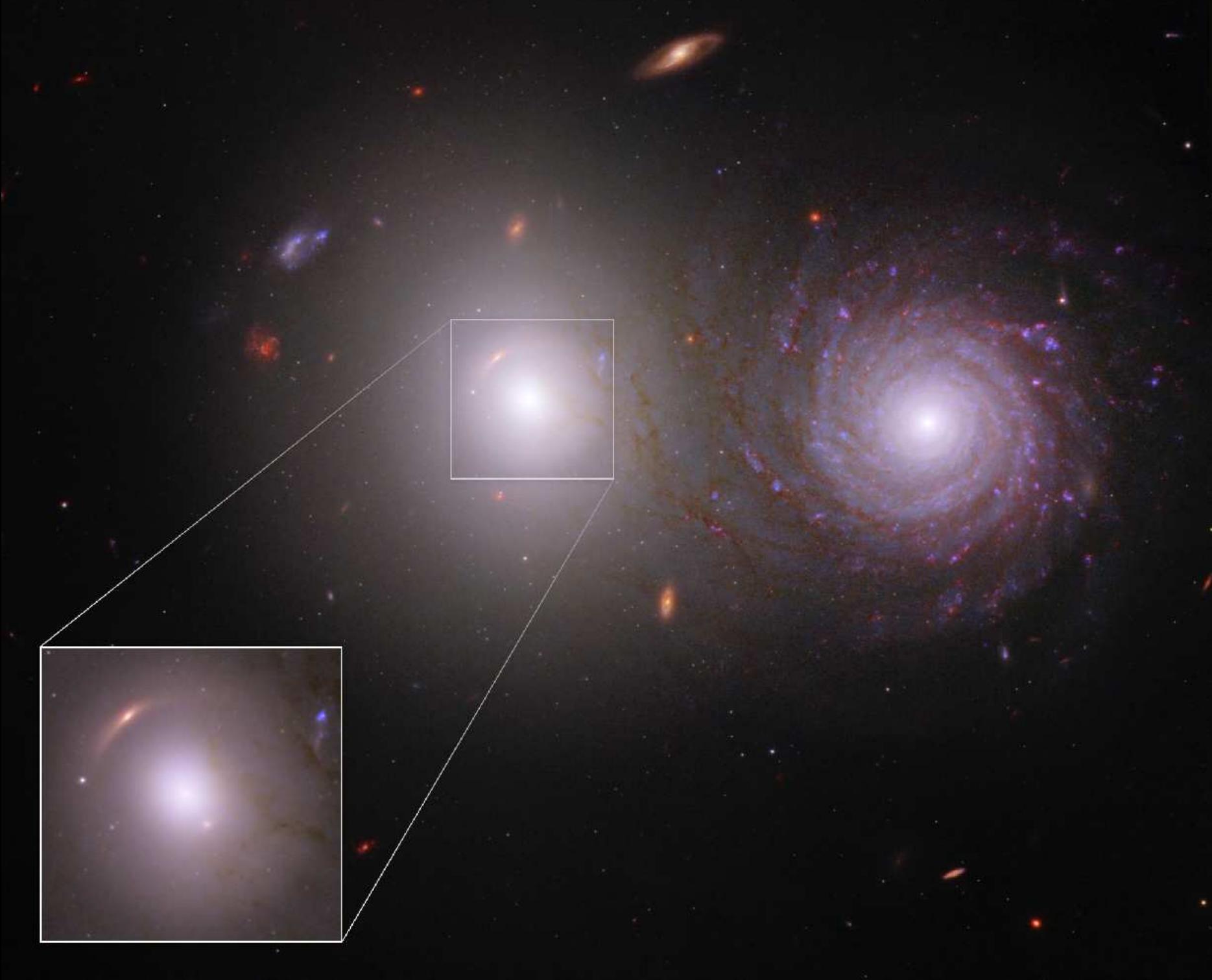
North Ecliptic Pole (NEP) Time Domain Field (TDF) from PEARLS project

— some remarkable results in PEARLS and other JWST projects:

- (Old star) tidal tails everywhere (J. Summers⁺ astro-ph/2306.13037);
- $\lesssim 1\%$ of objects variable: AGN & SNe (R. O'Brien, R. Jansen⁺ 2023);
- Gravitational (galaxy-galaxy) lensing common (Keel⁺ 23, AJ, 165, 166).



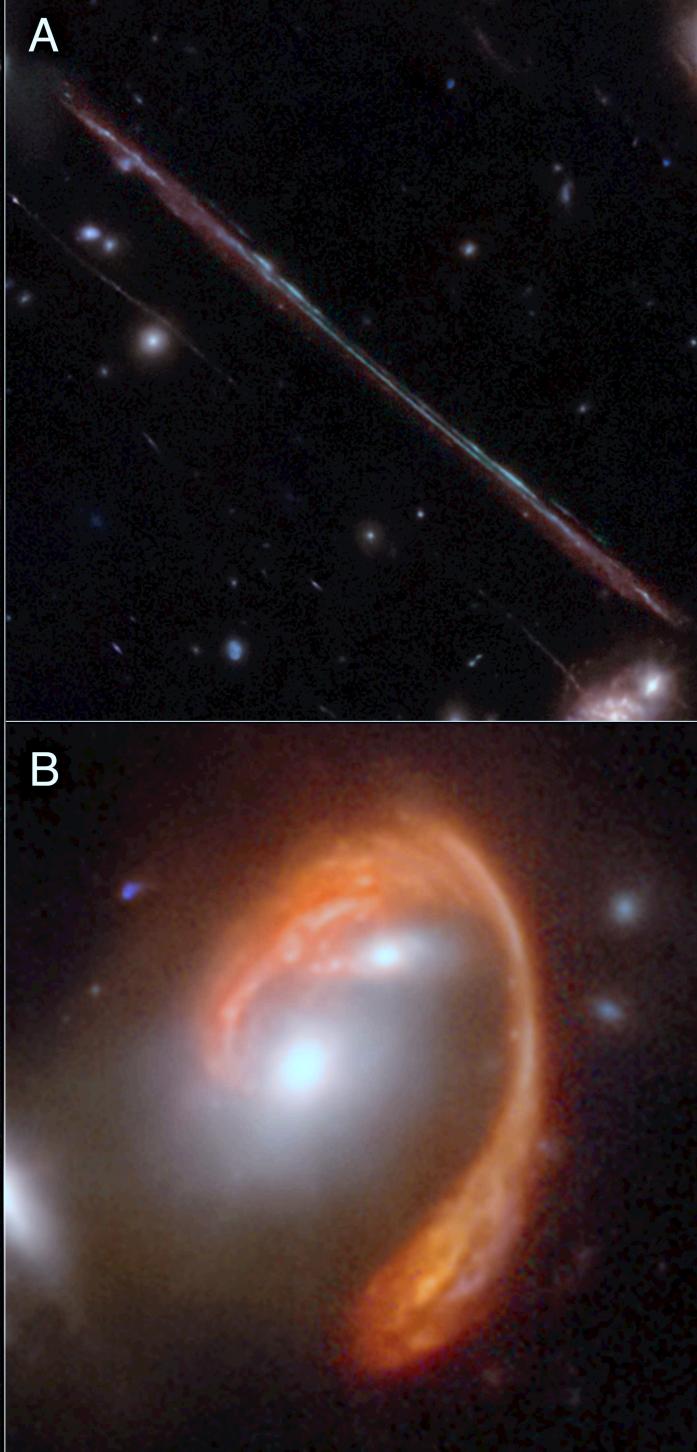
- Spiral overlapping Elliptical: Trace cosmic dust: small grains! (Keel⁺ 2023).
- 100's of Globular Clusters in Elliptical at 0.7 Blyr (J. Berkheimer⁺ 2023).



... and the Elliptical also lenses a galaxy seen 6 Byrs after Big Bang (Keel, et al. 2023, AJ, 165, 16)!



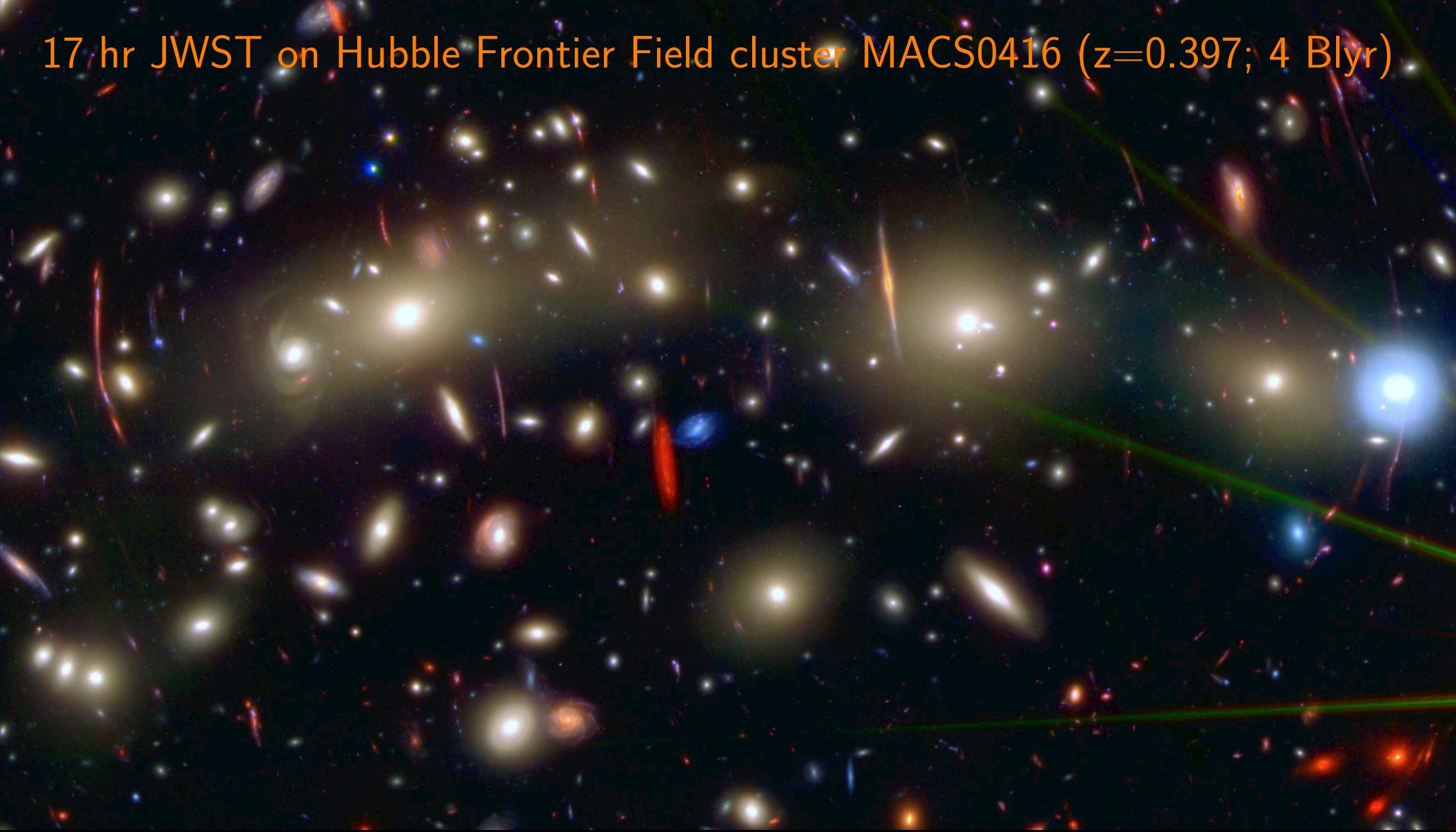
JWST image of most luminous far-IR Planck cluster G165 at $z=0.35$ found:
Highest- z SN-Ia: 3 epochs, 9 points at $z=1.78 \rightarrow H_0$? (Frye, Foo⁺ 2023).



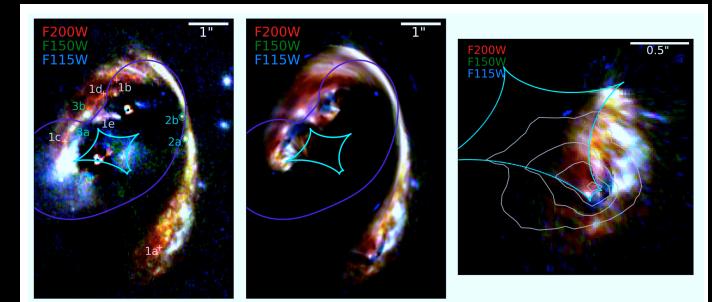
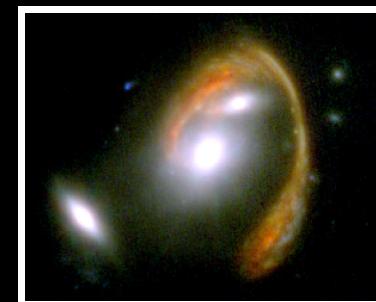
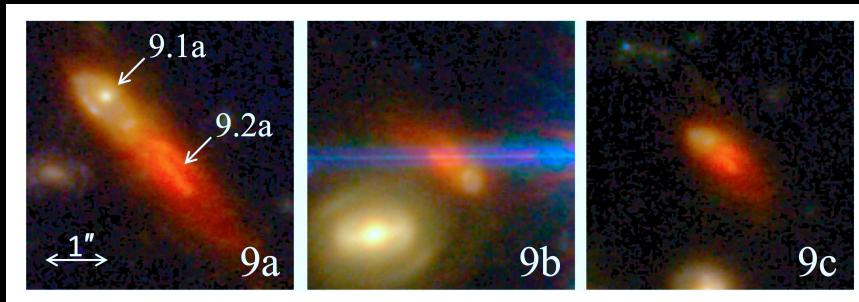
8-filter JWST/NIRCam of massive El Gordo cluster at redshift $z \approx 0.87$

T. Carleton⁺ (2023, ApJ, 953, 83); P. Kamienneski⁺ (astro-ph/2303.05054); J. Diego⁺ (2023; A&A, 672, A3); B. Frye, N. Foo⁺ (2023, ApJ, 952, 81).

17 hr JWST on Hubble Frontier Field cluster MACS0416 ($z=0.397$; 4 Blyr)



JWST: Lensed Dusty sources behind El Gordo in first few Byrs (P. Kamieneski+; astro-ph/2303.05054):



● References and other sources of material

Talk: http://www.asu.edu/clas/hst/www/jwst/sese_symp23.pdf Data: <https://sites.google.com/view/jwstpearls>

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