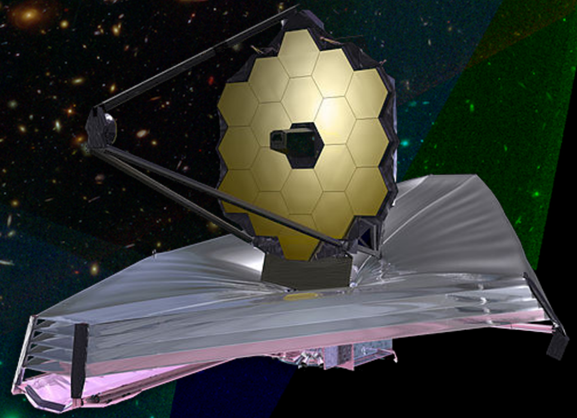
BAGPIPES SED fitting
and/or
JWST HFF observations



Dan Coe

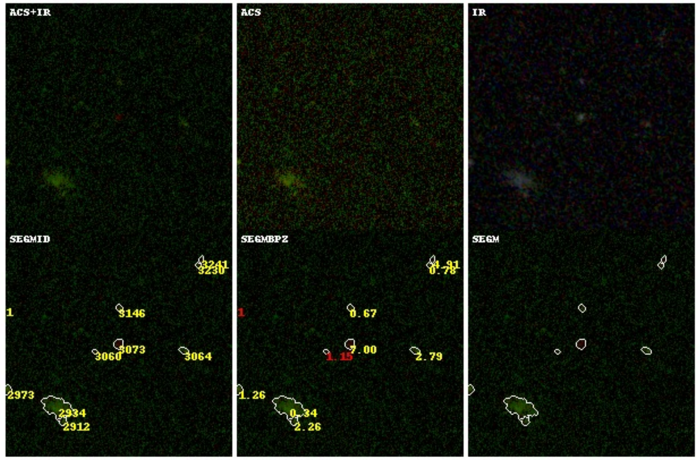
Space Telescope Science Institute

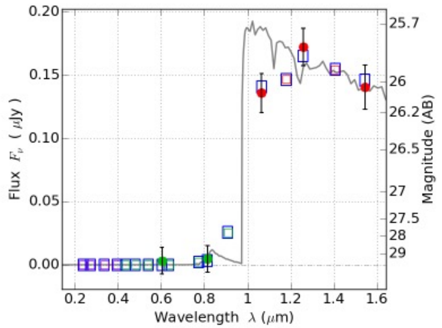
BUFFALO BPZ photo-z results available

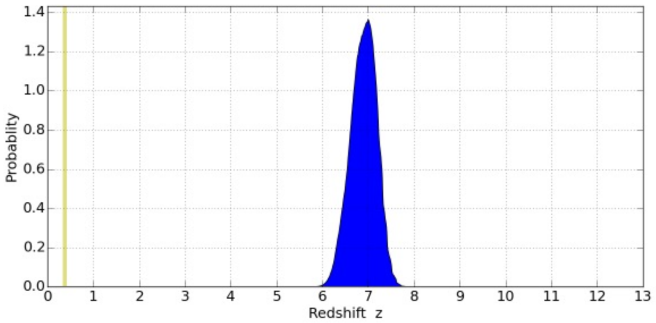
ABELL370 IR detection object #3073

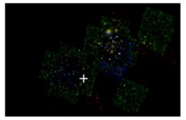
Color images and BPZ results
Catalog: 3073.cat
Black segments are analyzed here. Roll mouse over color images to view segments.
Best viewed in a wide browser window (1200 pixels or more). Download SED & P(z) plots to view larger versions.
In P(z) plots: Yellow lines mark the cluster redshift z = 0.375,

Object #3073 x,y = (9392, 4596) RA, Dec = (02:40:06.432, -1:38:09.24) = (40.02680, -1.63590) BPZ = 7.00 [6.31--7.41] type = 11.00 (SB11_A_0_l) chisq2 = 0.17 ODDS = 0.72
z_cluster = 0.375









https://www.stsci.edu/~dcoe/BUFFALO/HST/abell370/catalogs/IR_detection/PhotoZ/html/3073.html

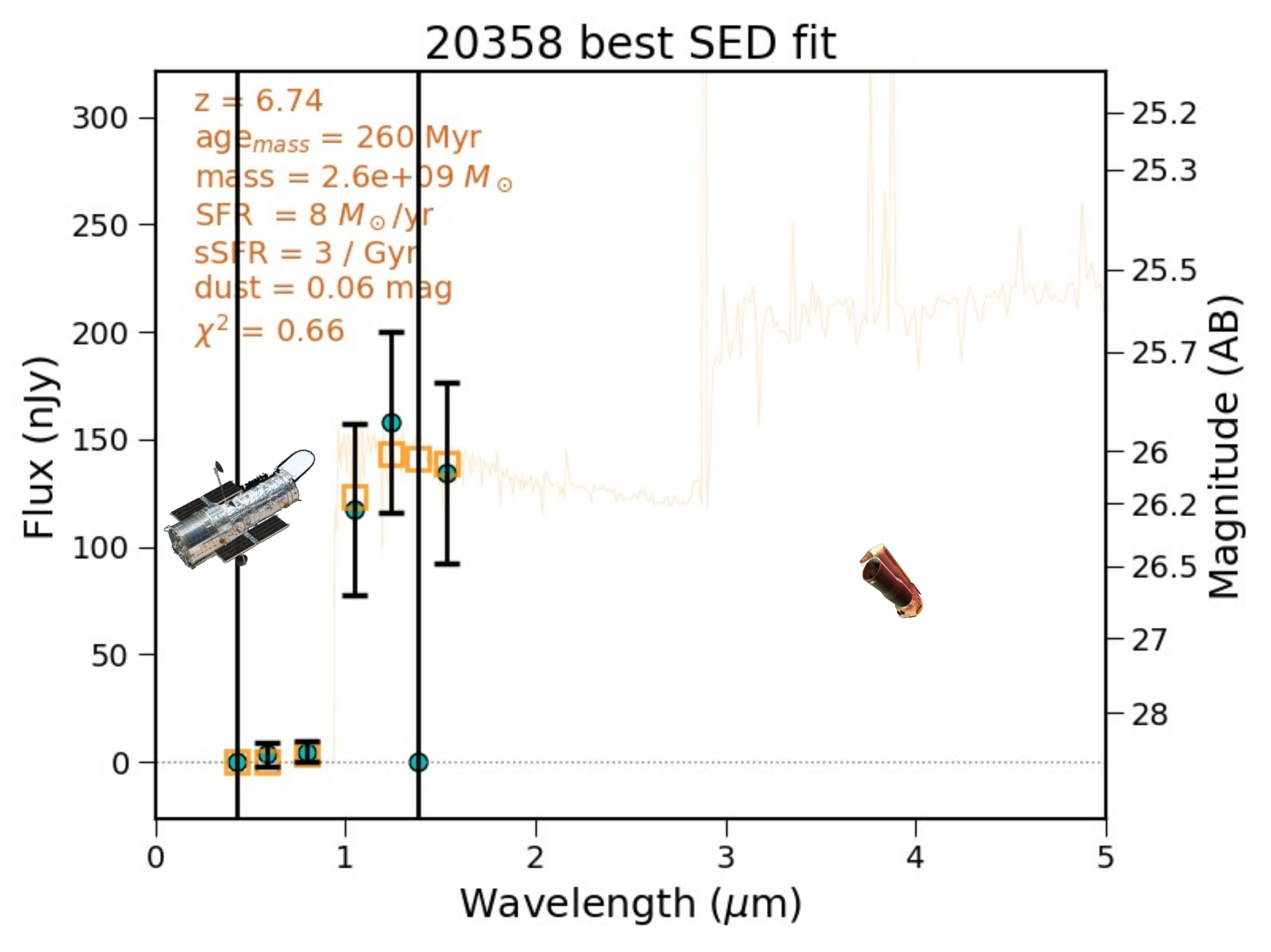
https://www.stsci.edu/~dcoe/BUFFALO/HST/

Webpage for every object
detected in every cluster
delivered Aug 2020
based on Anton's v0.5 image reductions
(independent of Amanda's catalog)

z~7 example shown:
high-z candidate identified by Lukas

Should I run BAGPIPES SED fitting?

on every galaxy? or just the high-z candidates?



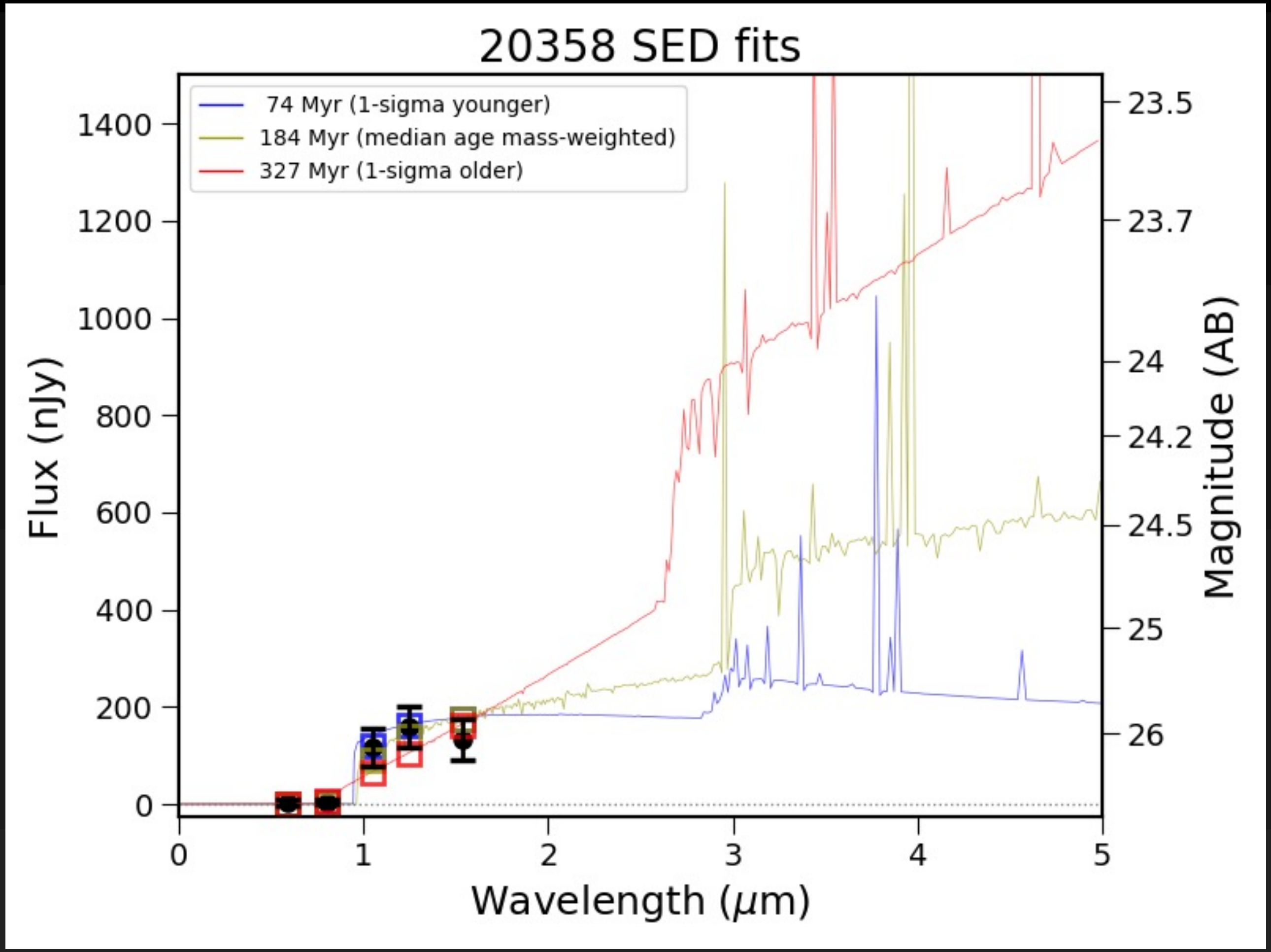
Same galaxy analyzed by BAGPIPES
Best SED fit & physical parameters
(uncertainties not shown here)

High-z candidate identified by Lukas Feb 2021
Photometry from Amanda Jun 2020

Spitzer photometry required for
better constraints on physical parameters

BAGPIPES redundant with BEAGLE?
Analyze all galaxies to identify interesting:
– high-z candidates
– massive quiescent galaxies
– other…

Spitzer photometry required to constrain age and stellar mass

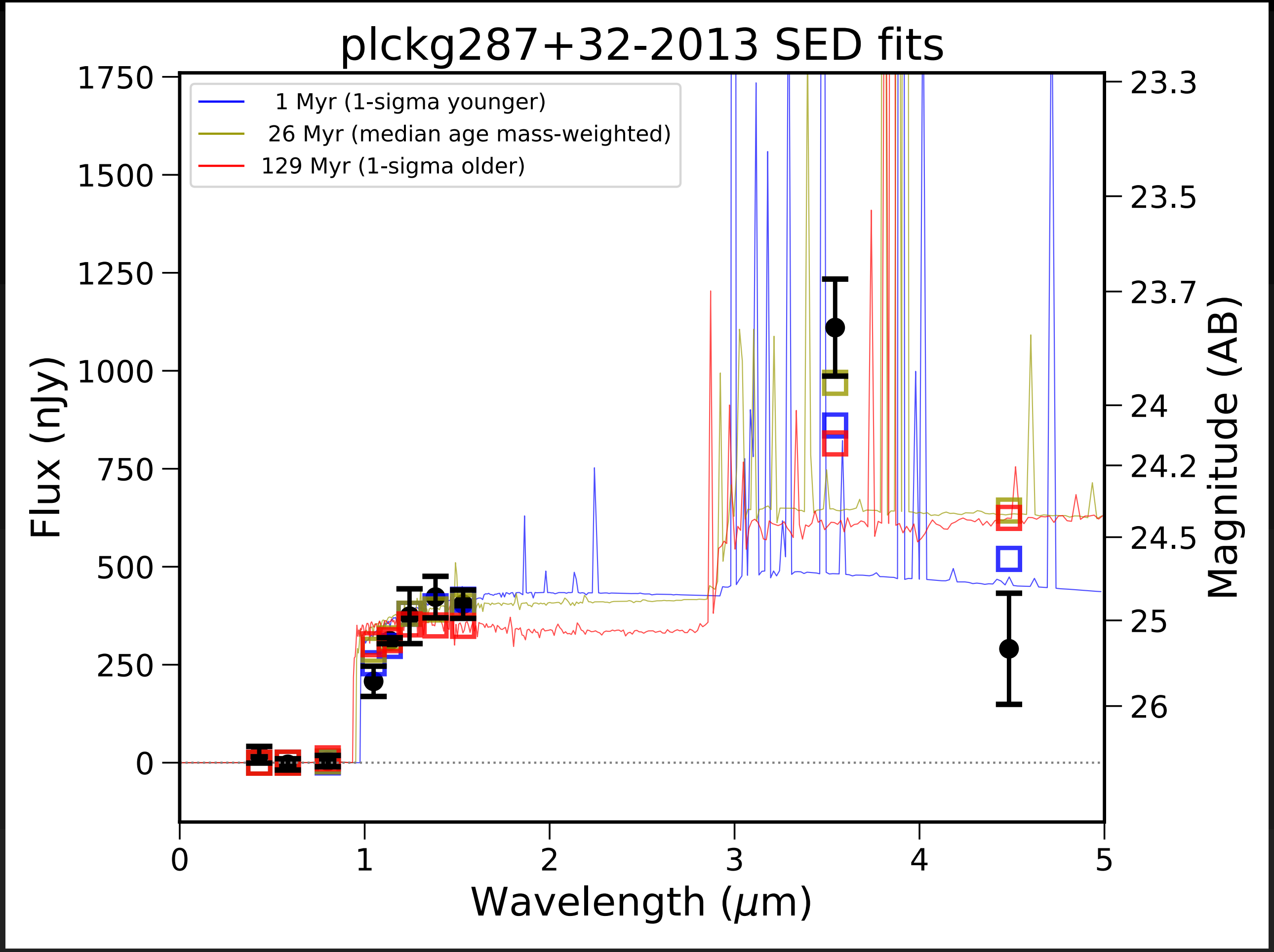


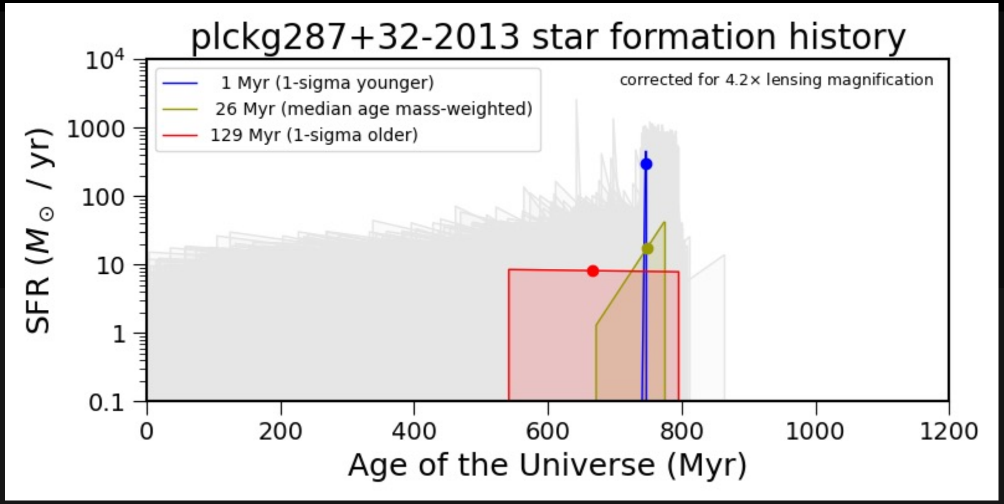
Same galaxy analyzed by BAGPIPES
SED age range shown here

High-z candidate identified by Lukas Feb 2021
Photometry from Amanda Jun 2020

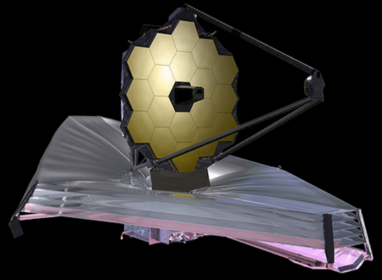
Spitzer photometry required for
better constraints on physical parameters

RELICS z~7 candidate [OIII] emitter





Victoria Strait et al. (2021)
Spitzer ch1 flux exccess
suggests [OIII] EW ~ 1000Å
in one of the brightest (mag 24.9)
z<7 candidates known



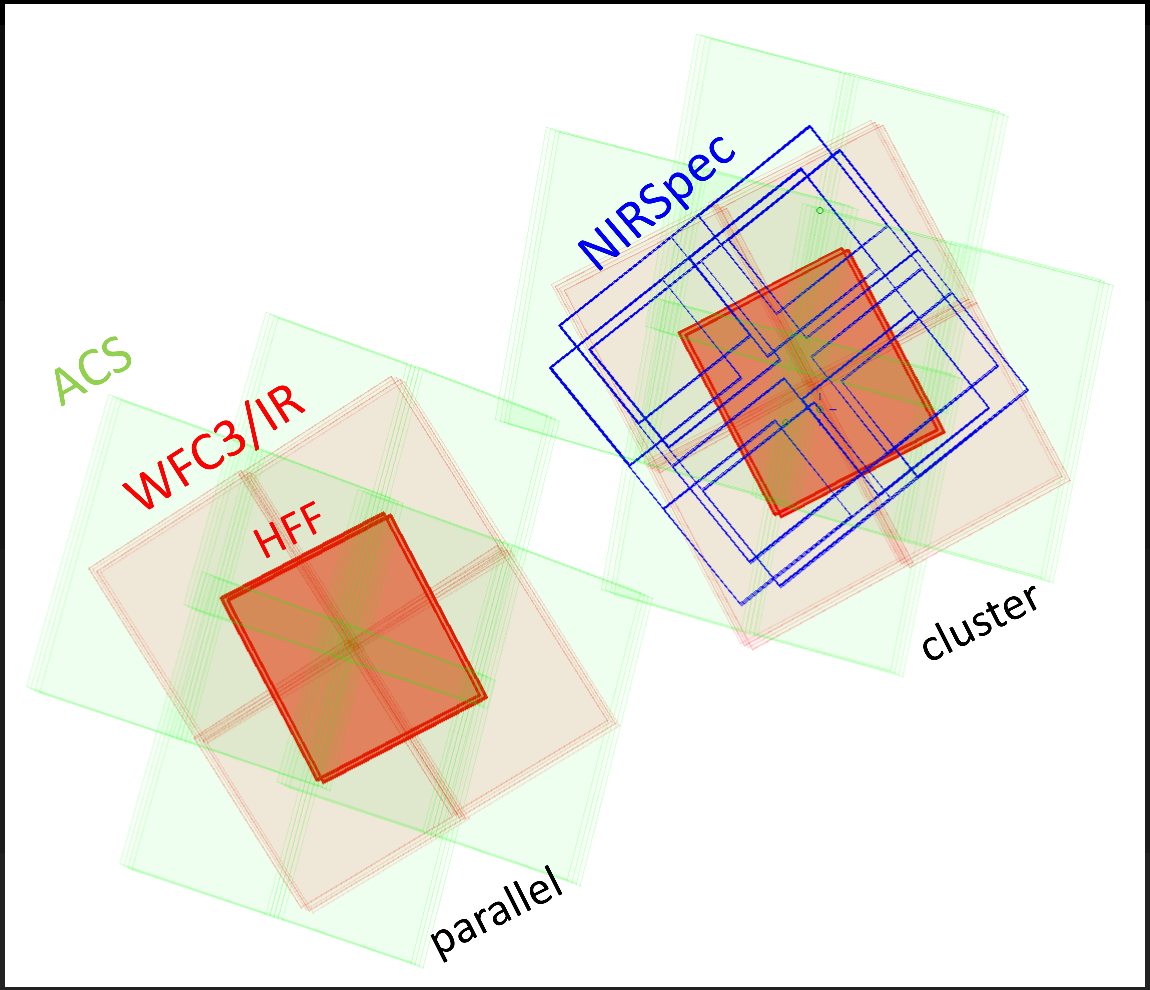
JWST Cycle 1 Observations of Frontier Fields Clusters

also see JWST presentations at SAZERAC 2.0: https://youtu.be/Ncu5hhFOUrs

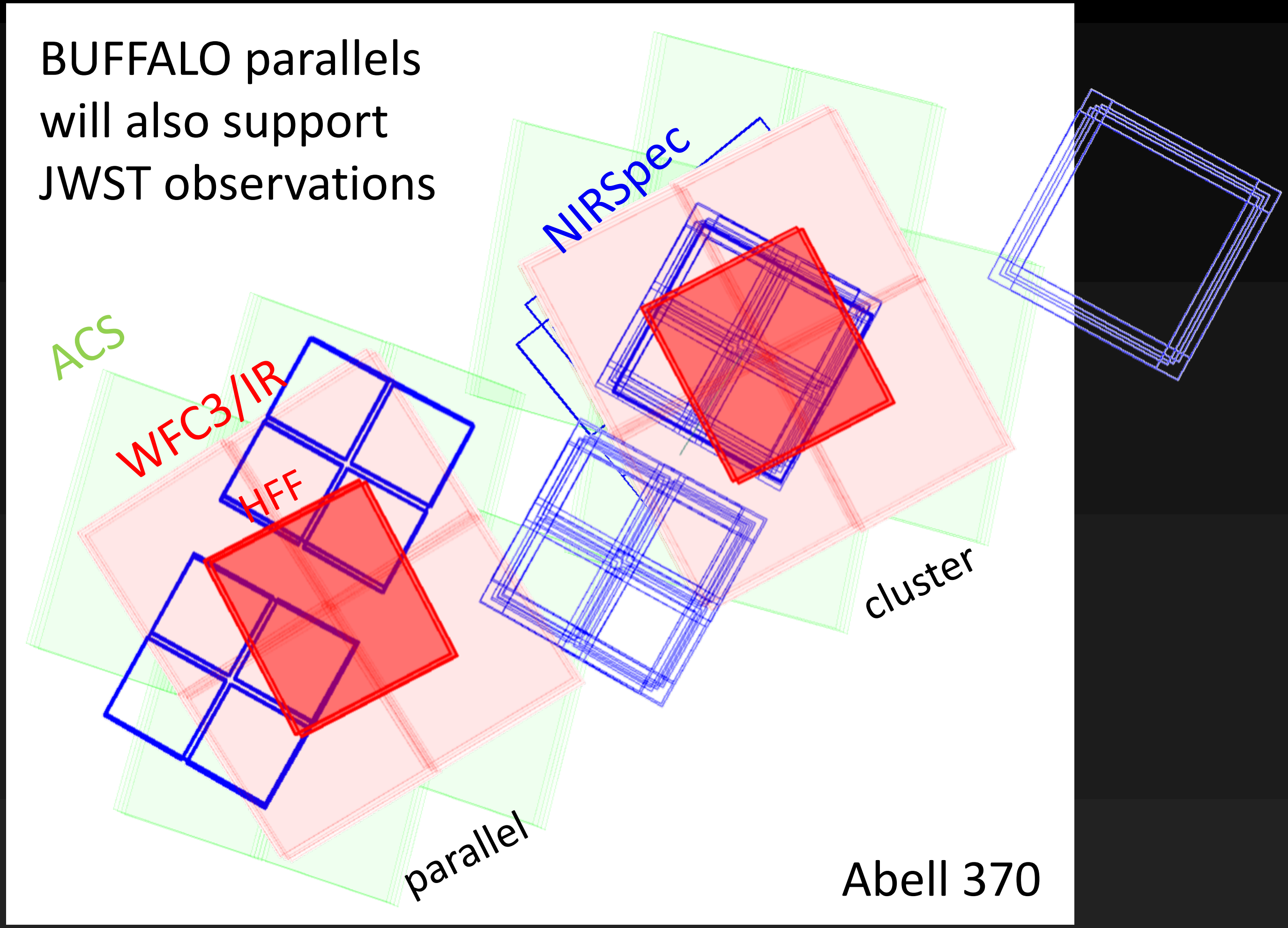
JWST Cycle 1 HFF Observations

		Abell 2744	MACS 0416-24	MACS 0717+37	MACS 1149-22	Abell S1063	Abell 370
GTO 1176 WMDF Windhorst	NIRCam	A2744	M0416		M1149		
GTO 1208 CANUCS Willott	NIRISS NIRSpec MSA, IFU NIRCam		M0416		M1149		A370
GTO 1199 Stiavelli	NIRSpec MSA NIRCam				M1149		
ERS 1324 Treu	NIRISS NIRSpec MSA NIRCam parallels	A2744					
GO 2561 Labbe	NIRSpec IFU MIRI MRS IFU NIRCam & MIRI imaging	A2744					

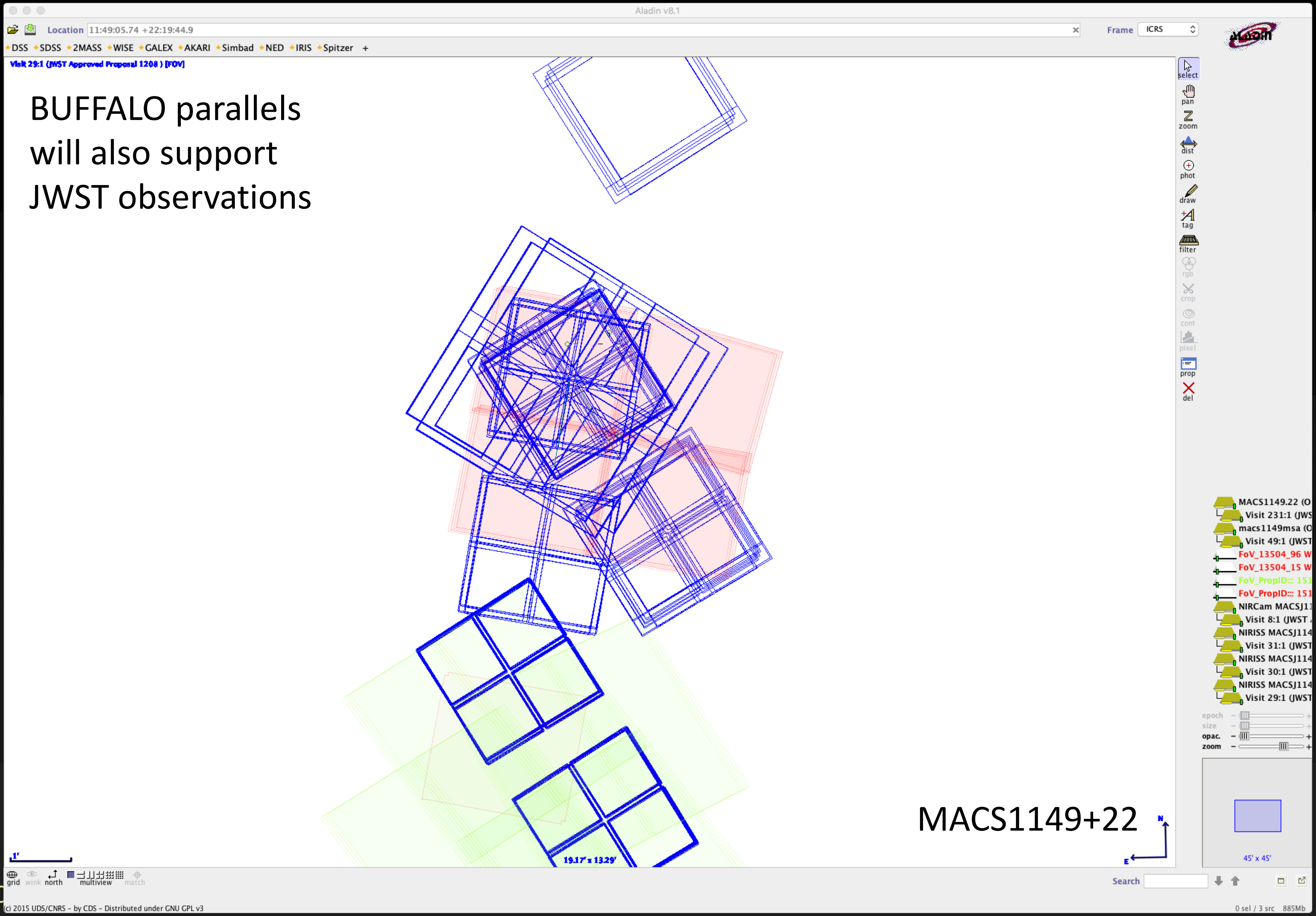
BUFFALO will aid NIRSpec observations

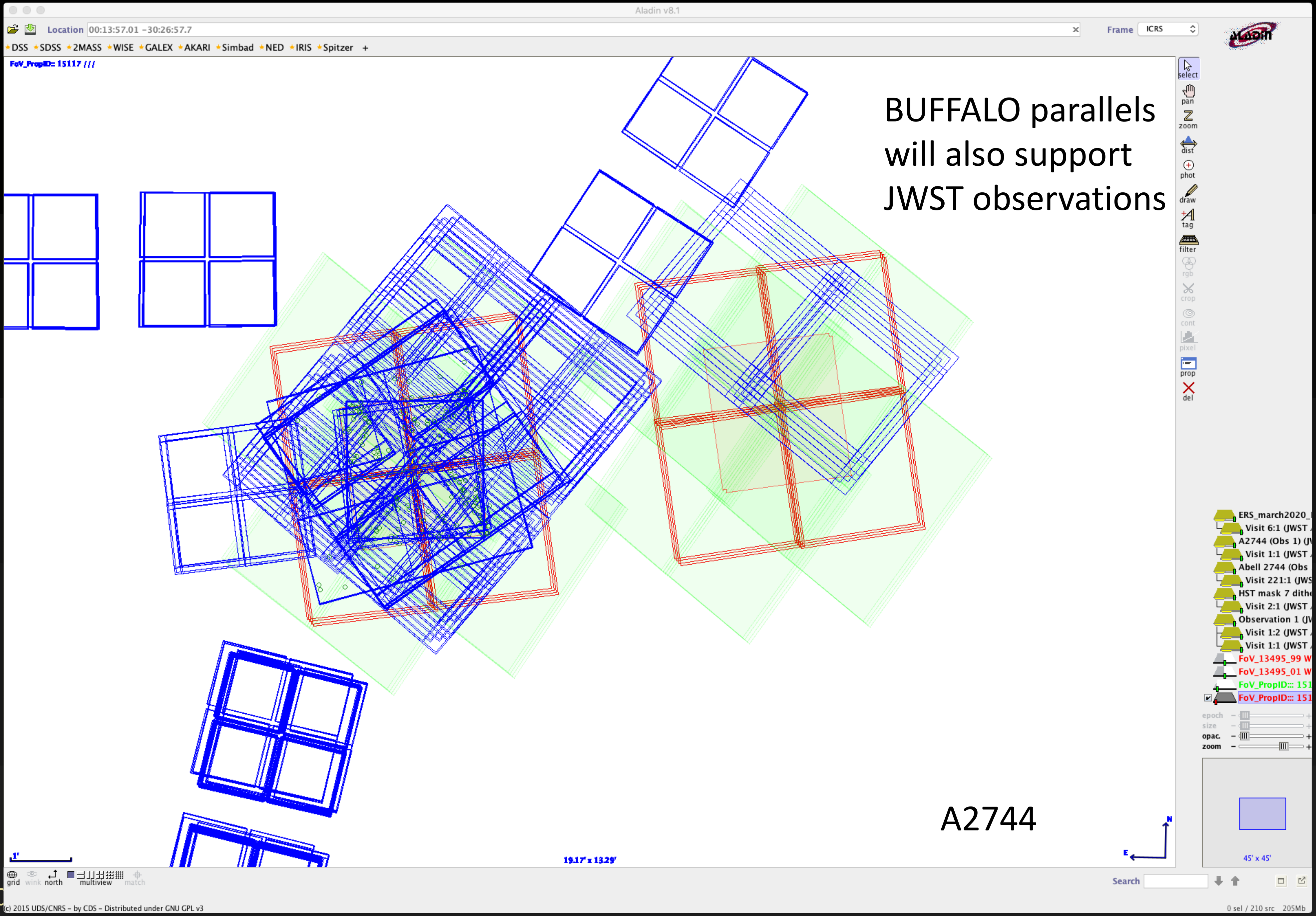


BUFFALO prime will aid NIRSpec

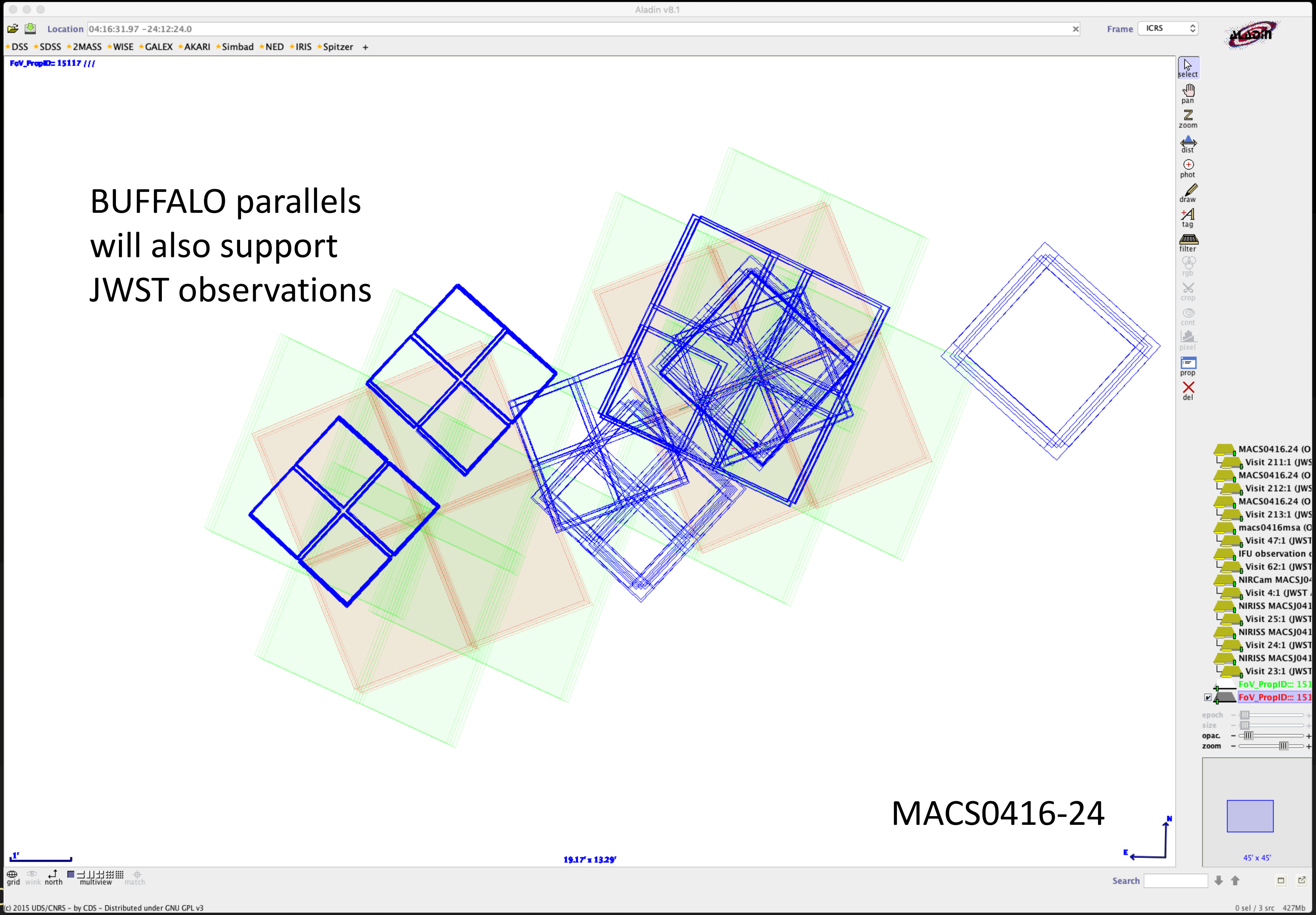


BUFFALO parallels will also support JWST observations





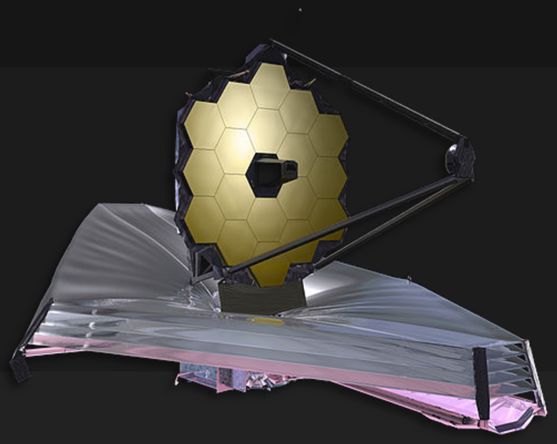
Aladin v8.1
Location 00:13:57.01 -30:26:57.7
Frame ICRS
DSS SDSS 2MASS WISE GALEX AKARI Simbad NED IRIS Spitzer
FoV_PropID:: 15117
BUFFALO parallels will also support JWST observations
A2744
19.17' x 13.29'
(c) 2015 UDS/CNRS - by CDS - Distributed under GNU GPL v3


BUFFALO parallels
will also support
JWST observations
MACS0416-24
Aladin v8.1
Location 04:16:31.97 -24:12:24.0
Frame ICRS
DSS SDSS 2MASS WISE GALEX AKARI Simbad NED IRIS Spitzer
FoV_PropID:: 15117
MACS0416.24 (O
Visit 211:1 (JWS
MACS0416.24 (O
Visit 212:1 (JWS
MACS0416.24 (O
Visit 213:1 (JWS
macs0416msa (O
Visit 47:1 (JWST
IFU observation
Visit 62:1 (JWST
NIRCam MACSJ04
Visit 4:1 (JWST
NIRISS MACSJ041
Visit 25:1 (JWST
NIRISS MACSJ041
Visit 24:1 (JWST
NIRISS MACSJ041
Visit 23:1 (JWST
19.17' x 13.29'
45' x 45'
(c) 2015 UDS/CNRS - by CDS - Distributed under GNU GPL v3

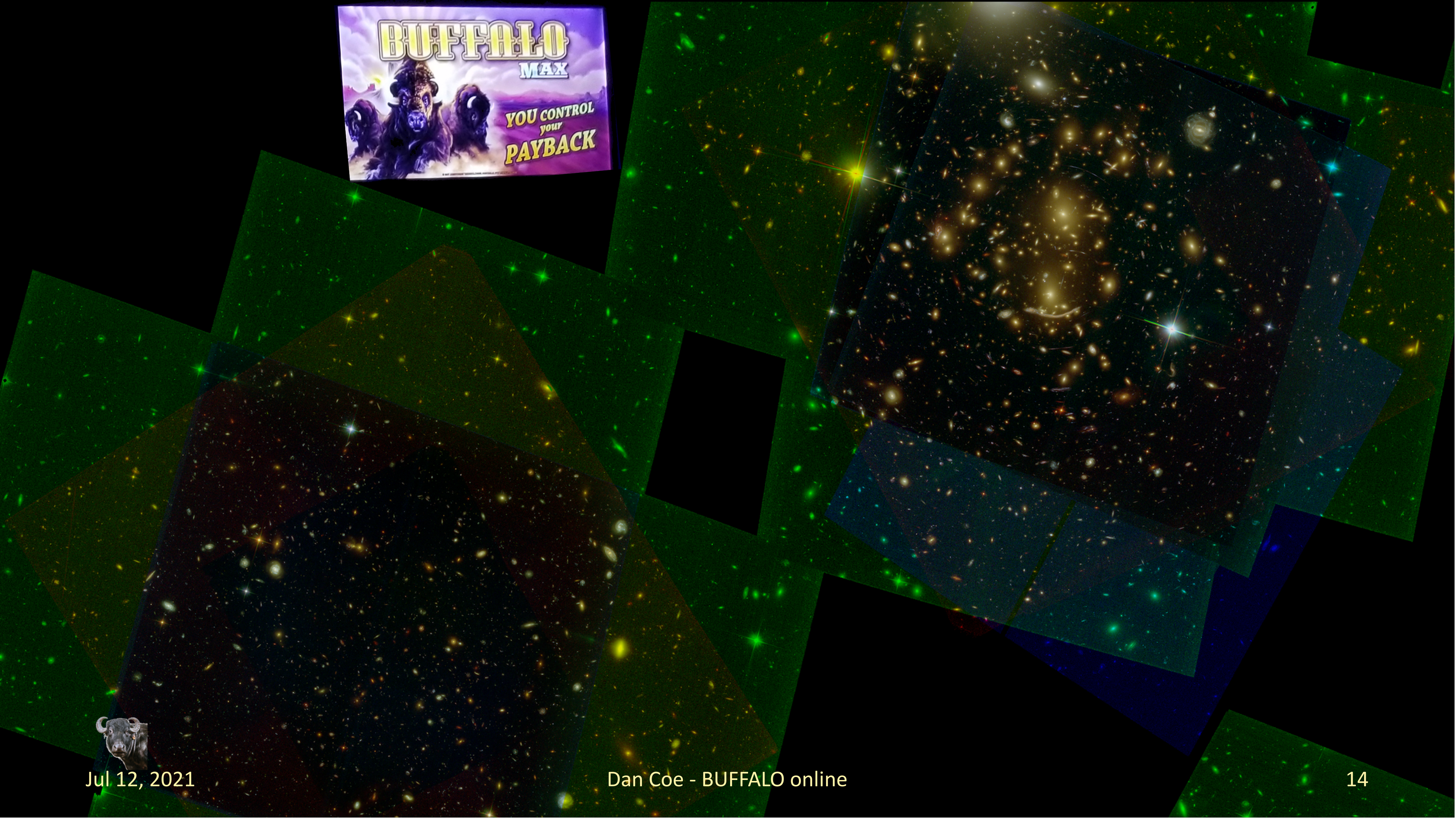
JWST Nominal Possible Timeline TBD

Cycle 1 observations could be underway a year from now!

Let’s try to publish BUFFALO high-z results before then



Oct / Nov 2021	Launch	
Dec 2021	Commissioning begins (6 months)	
Jan 2022		
Feb 2022		
Mar 2022		
Apr 2022		
May 2022		
Jun 2022	Cycle 1 observations begin	
Jul 2022		
Aug 2022		
Sep 2022		ERS
Oct 2022	Cycle 1	
Nov 2022		
Dec 2022	Cycle 2 GO proposal deadline	
Jan 2023		
Feb 2023		
Mar 2023		
Apr 2023		
May 2023		
Jun 2023	Cycle 2 observations begin	
Jul 2023		
Aug 2023		
Sep 2023	Cycle 2	
Oct 2023		
Nov 2023		
Dec 2023	Cycle 3 GO proposal deadline	


BUFFALO
MAX
YOU CONTROL
your
PAYBACK