X36a RIOJA. Complex Dusty Starbursts in a Major Merger B14-65666 at z=7.15

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Major mergers are predicted to occur more frequently at high redshift by $\propto (1+z)^{2-3}$, increasing an importance of merging build-up processes at higher redshift. In the 2023 autumn annual meeting in ASJ (X56a), we presented JWST NIRCam observations of a Lyman-break galaxy system B14-65666 at $z = 7.15$, which are taken as part of the JWST RIOJA project. B14-65666 is a bright major merger of $M_{\rm UV} = -22.5$ mag and the NIRCam observations revealed complex morphology of the system. In this talk, we would like to present photometry and emission-line analyses based on a combination of JWST and ALMA data. The UV/optical and sub-mm SED fitting confirms that the system consists of a dusty starburst galaxy with a possible high dust temperature ($\geq$ 63–68 K) and a less-dusty starburst galaxy that would have a low dust temperature ($\leq$ 27–33 K) or patchy stellar-and-dust geometry. The optical-to-FIR [OIII] line ratio shows that a core of the dusty starburst has a lower gas-phase metallicity ($\simeq 0.2$ $Z_\odot$) than the other less-dusty starburst. These results agree with a picture of nuclear dusty starbursts induced by less-enriched inflows accompanied with the major merger.