

Z107a The low dust content of massive, quiescent galaxies at $z \sim 2$

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There has been tremendous progress in our understanding of how massive quiescent galaxies form and evolve over the last decade. However, there is a key unresolved issue, which is, how massive galaxies quench their star formation. Is it due to the lack of gas? Or, they retain large gas reservoirs but their star formation is just very inefficient? In order to address this issue, we have carried out an ALMA survey of dust continuum emission of a spectroscopically confirmed, robust sample of 14 massive, quiescent galaxies located at $z \sim 2$. Our findings suggest that quiescent galaxies have very low dust content compared to similarly massive star-forming galaxies. This supports the scenario in which the lack of gas is the driving mechanism for quenching. Our results also imply that galaxy mergers likely play a role in triggering starburst before depleting the gas and dust in these galaxies.