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Stellar populations of green valley galaxies

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We present a study on the stellar populations and stellar ages of a sub-sample of far-infrared AGN and non-AGN green valley galaxies at 0.6 < z < 1.0 using the data from the COSMOS field. We used long-slit spectroscopy and derived stellar populations and stellar ages using the stellar population synthesis code "STARLIGHT" and analysed the available Lick/IDS indices, such as Dn4000 and $H\delta_A$. We find that both FIR AGN and non-AGN green valley galaxies are dominated by intermediate stellar populations 67 % and 53 %, respectively. The median stellar ages for AGN and non-AGN are $\log t = 8.5$[yr] and $\log t = 8.4$ [yr], respectively. We found that majority of our sources (62 % of AGN and 66 % of non-AGN) could have experienced bursts and continuous star formation. In addition, most of our FIR AGN (38 %) compared to FIR non-AGN (27 %) might have experienced a burst of SF more than 0.1 Gyr ago. We also found that our FIR AGN and non-AGN green valley galaxies have similar quenching time-scales of $\sim$70\,Myr. Therefore, the results obtained here are in line with our previous results where we do not find that our sample of FIR AGN in the green valley shows signs of negative AGN feedback, as has been suggested previously in optical studies.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

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