Title:	Galaxy And Mass Assembly (GAMA): galaxy close pairs, mergers and the future fate of stellar mass
Authors:	Mahajan, Smriti (/jspui/browse?type=author&value=Mahajan%2C+Smriti)
Keywords:	Galaxies - evolution Galaxies - fundamental parameters Galaxies - interactions Galaxies - stellar content Galaxies - luminosity function
Issue Date:	2014
Publisher:	Oxford University Press
Citation:	Monthly Notices of the Royal Astronomical Society, 444(4), pp.3986-4008.
Abstract:	We use a highly complete subset of the Galaxy And Mass Assembly II (GAMA-II) redshift sample to fully describe the stellar mass dependence of close pairs and mergers between 108 and 1012M{N-ary circled plus operator} . Using the analytic form of this fit we investigate the total stellar mass accreting on to more massive galaxies across all mass ratios. Depending on how conservatively we select our robust merging systems, the fraction of mass merging on to more massive companions is 2.0-5.6 per cent. Using the GAMA-II data we see no significant evidence for a change in the close pair fraction between redshift z = 0.05 and 0.2. However, we find a systematically higher fraction of galaxies in similar mass close pairs compared to published results over a similar redshift baseline. Using a compendium of data and the function γ M = A(1 + z)m to predict the major close pair fraction, we find fitting parameters of A = 0.021 ± 0.001 and m = 1.53 ± 0.08, which represents a higher low-redshift normalization and shallower power-law slope than recent literature values.We find that the relative importance of in situ star formation versus galaxy merging is inversely correlated, with star formation dominating the addition of stellar material below M* and merger accretion events dominating beyond M*. We find mergers have a measurable impact on the whole extent of the galaxy stellar mass function (GSMF), manifest as a deepening of the 'dip' in the GSMF over the next Gyr and an increase inM* by as much as 0.01-0.05 dex.
Description:	Only IISERM authors are available in the record.
URI:	https://academic.oup.com/mnras/article/444/4/3986/1016861 (https://academic.oup.com/mnras/article/444/4/3986/1016861) http://hdl.handle.net/123456789/3101 (http://hdl.handle.net/123456789/3101)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format	
Need to add pdf.odt (/jspui/bitstream/123456789/3101/1/Need%20to%20add%20pdf.odt)		8.63 kB	OpenDocument Text	View/Open (/jspui/bitstream/12345

Show full item record (/jspui/handle/123456789/3101?mode=full)

(/jspui/handle/123456789/3101/statistics)