

ID 279

Tipo de Comunicación: Poster

Sesión Científica: Galaxias y cosmología

Título: The Formation of Bulges, Discs and Two Component Galaxies in the CANDELS Survey at $z < 3$

Nombre (Autor que presenta): Berta

Apellidos (Autor que presenta): Margalef Bentabol

Apellidos y nombre de los autores: Margalef Bentabol, Berta; Conselice, Christopher J.; Mortlock, Alice; Hartley, Will; Duncan, Kenneth; Ferguson, Harry C.; Koekemoer, Anton M.; Dekel, Avishai; Primack, Joel R.

Resumen:

The most massive galaxies in the local Universe can be classified as disc-dominated and spheroid-dominated (i.e. Hubble type). However, it is unclear how and when these dominant structures form and the possible connection between them. To address this issue we have investigated massive galaxies ($\log M > 10$) in the CANDELS fields at the epoch of $1 < z < 3$, when the Hubble sequence forms, by fitting their light profiles with a single Sérsic fit, as well as with a combination of exponential and Sérsic profiles. We split our sample between having 1 component (disc/spheroid-like galaxies) and those formed by an 'inner part' or bulge and an 'outer part' or disc (2 components). I will show in this talk that the most massive galaxies are more likely to consist of a bulge and a disk compared to lower mass galaxies. The number of such 2-component systems decreases at higher redshift; by a factor of three from $z=1$ to $z=3$. We find that single 'disc-like' galaxies have the highest relative number densities at all redshifts, and that 2-component galaxies have the greatest increase and become at par with discs by $z = 1$. We also find that the 2-component systems have an increase in the sizes of their outer components, or 'discs' by about a factor of three from $z = 3$ to $z = 1.5$, while the inner components or 'bulges' stay roughly the same size. This suggests that these systems are growing from the inside out, whilst the bulges or protobulges are in place early in the history of these galaxies.