evolução química tanto do gás como das estrelas, ao mesmo tempo que obtivemos vários episódios de vento galáctico e “inflow" para os fluxos de gás assim como surtos de formação estelar (FE). As BCGs são caracterizadas por vários surtos de FE com baixa eficiência de remoção do gás da galáxia, enquanto que as dSphs são caracterizadas por um ou dois surtos com alta eficiência de remoção de gás. Os surtos que aparecem em ambos tipos de galáxias decorrem naturalmente do poço de potencial mais profundo das BCGs e mais raso das dSphs. Isto reforça as suspeitas, a partir de modelos de evolução química de zona única, de que BCGs e dSphs constituem famílias distintas de galáxias. Além disso, as BCGs apresentam uma taxa de FE tipicamente superior a das dSphs (0.1-1 Gano^{-1} e 0.01-1 Gano^{-1}, respectivamente). Por fim, ambos tipos de sistemas anões podem ser associados aos sistemas “damped Lyman ?".

PAINEL 117

NGC 1052: STELLAR POPULATION

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The elliptical galaxy NGC 1052 is a moderately luminous E4 galaxy with an apparent normal stellar kinematics (Schechter & Gunn 1979). However, the central region is spectroscopically unusual with bright and broad line emission (Davies & Illingworth 1986). NGC 1052 is the brightest member of a small group which together with the NGC 1069 group makes up the Cetus cluster. For a good understanding of some properties of NGC 1052, such as the presence of central gas emission, a precise determination of the star formation process is necessary. Therefore, the age of the constituent stars in NGC 1052 is an important parameter to be determined. The integrated spectrum of a given galaxy contains significant information on its stellar content and chemical enrichment (Bica & Alloin, 1985). In principle this information together with a stellar population synthesis method can be used to determine the star-formation history (Bica & Alloin, 1986). In this work we employ the stellar population synthesis method developed by Bica (1988) which is based on integrated spectra of star clusters and H_{II} regions characterized by different ages and metallicities. In the present case we use seven components in the spectral base (G1, G2, G3, Y1, Y2, Y3 and RHII region). Three old components with age 10^{10} years and differents metallicities: $G1$? $[Z/Z_{\odot}]$?0.0, $G2$? $[Z/Z_{\odot}]$?-0.4 and $G3$? $[Z/Z_{\odot}]$?-1.1. The Y1 component have age ?10 Myr and metallicity $[Z/Z_0]$?-0.25; Y2 has age ?25 Myr and metallicity $[Z/Z_0]$?-0.4 and Y3 has age ?80 Myr and metallicity $[Z/Z_0]$?-0.5. The RHII region is a representation of a population with 10^6 years and solar metallicity. The old components (G1, G2, and G3) dominate the ?5870 Å flux in the central

extractions of NGC 1052. In the nucleus, the G1 component contributes with ?61% of the total flux, while in the external regions the contribution decreases to ?25%. The G2 and G3 components also present a similar behaviour, howerer its gradient is not too strong. The Y1, Y2 and Y3 components increase from the external parts to the center of NGC 1052, while the RHII does not show a considerable gradient.

PAINEL 118

SPECTRAL SYNTHESIS OF ELLIPTICAL GALAXIES FROM SDSS: ? -ELEMENTS MISMATCH

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Spectral synthesis is the decomposition of an observed spectrum in terms of a linear combination of a base of simple stellar populations of different ages and metallicities in order to evaluate the star formation and chemical histories of a galaxy. Other products of the synthesis are the extinction and velocity dispersion. We studied the reliability of the method by means of simulations and empirical tests, both of which demonstrate that the method is very powerful. Stimulated by the excellent fits obtained with our code (**STARLIGHT**) for a volume limited sample of 50362 galaxies, we started a project to investigate more closely the results for elliptical galaxies, aiming to determine their star formation and chemical histories. Careful comparison between observed and synthetic spectra revealed systematic residuals in absortion features due to ?-elements, and that residuals increase for increasing velocity dispersion. This occurs because Bruzual & Charlot spectra used in the fits have solar mixture of elements. We investigated the effects of this mismatch by means of simulations and refits of the data by masking the strongest ?-features (Mg, CN and Na D bands). To our dismay we find that this ? mismatch produces systematic and non-negligible biases in both logarithmic of mean stellar age and metallicity estimates. A full solution to this problem requires an ?-enhanced base.

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