STAR FORMATION ANALYSIS IN THE BRIGHTEST GALAXIES AND CLUSTERS FROM INFRARED AND ULTRAVIOLET EMISSIONS. G. Hrinda, B.

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At the central region of galaxies and galactic clusters lies an intricate balance of processes, creating effects upon the star formation rate at the core of these objects. Analysis of emissions from these structures allows the observer to develop an approximate understanding of this activity. Ultraviolet (UV) emissions from the electromagnetic spectrum are useful in this study because they originate in hot, young, massive stars that have recently formed in the galactic timeline. By determining the approximate number of young stars and applying this value to astronomical models of star formation, one is able to obtain the star formation rate. However, the UV only indicates recently active regions within the object. Infrared (IR), which is emitted from all stars in the regions of interest, is therefore used to better determine the underlying structure of the galaxies and clusters being examined. This helps to provide a complete picture of these bodies in question. A detailed analysis of the UV and IR images of the Brightest Clusters of Galaxies (BCGs) and Third Cambridge Catalog Radio Galaxies (3CR) involved fitting surface brightness profiles to the data to determine the spatial distribution of the stellar populations in the galaxy.