

[초EG-01] Extreme Objects in High Redshift Universe

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With flourishing of new facilities, we are now set to expand the horizon of the human knowledge of the universe deep into the very beginning of the cosmic history of astronomical objects. In such an endeavor, extreme objects and cosmic events such as violent cosmic explosions, rapidly growing supermassive black holes, and proto-clusters of galaxies, are the objects to be investigated in order to unveil what was happening in the very early universe. We will discuss what we have learned and are expecting to discover from such extreme objects about the infant universe both currently and in future, highlighting some of our recent works.

[초EG-02] Hidden Monsters in the Submillimeter

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Submillimeter Galaxies (SMGs) are high-redshift galaxies undergone extremely intense starbursts. Their UV radiation is heavily extinguished by dust and is re-radiated in the far-IR and submillimeter. They are thought to be progenitors of present-day giant elliptical galaxies and can be tracers of the highest density environment at high redshift. However, because of the low angular resolution of existing single-dish submillimeter telescopes, the progress in understanding the SMG population has been remarkably slow. In this talk, I will outline the outstanding issues in this field, and introduce our Submillimeter Array interferometric studies of SMGs. I will also discuss possible new research that will be enabled by next-generation instruments such as ALMA and LMT.