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国台学术报告 NAOC COLLOQUIUM

2012 年 第 53 次 / Number 53, 2012

TIME: Wednesday, 3:00 PM, Sep 26, 2012 LOCATION: A135 NAOC

Red Galaxies at high redshifts: passive or dusty galaxies?

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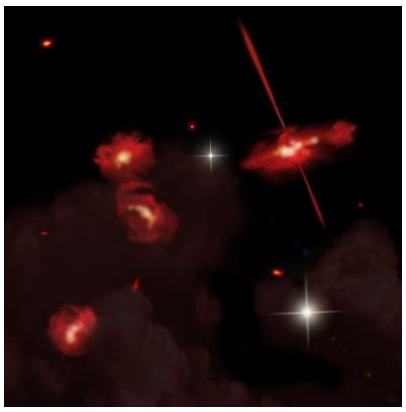
Jiasheng Huang is a Professor of Harvard-Smithsonian Center for Astrophysics and NAOC. He obtained his Ph.D. of Astronomy from the University of Hawaii in 1997. After which He did a 3-year post-doctoral fellowship in Max-Planck Institute of Astronomy. Then he joined the Spitzer/IRAC Science team, Smithsonian Astrophysical Obs in 1999.

Abstract



I will report the detection of four IRAC sources in the GOODS-South field with an extremely red color of H - [3.6] > 4.5. The four sources are not detected in the deep Hubble Space Telescope WFC3 H-band image with H_{limit} = 28.3 mag. We find that only three types of SED templates can produce such a red H - [3.6] color: a very dusty SED with the Calzetti extinction of A_V = 16 mag at z = 0.8; a very dusty SED with the SMC extinction of A_V = 8 mag at z = 2.0- 2.2; and an 1 Gyr SSP with A_V ~ 0.8 at z = 5.7. We argue that these sources are unlikely dusty galaxies at z <= 2.2 based on absent strong MIPS 24 μm emission. The old stellar population model at z > 4.5 remains a possible solution for the 4 sources. At z > 4.5, these sources have stellar masses of $\log(M_*/M_{sun})$ = 10.6-11.2. One source, ERS-1, is also a type-II X-ray QSO with $L_{2-8\,keV} = 1.6 \times 10^{44}$ erg s^{-1}. One of the four sources is an X-ray QSO and another one is a HyperLIRG, suggesting a galaxy-merging scenario for the formation of these massive galaxies at high redshifts.

All are welcome! Tea, coffee, biscuits will be served at 2:45 P.M.

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).