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LYMAN-ALPHA BLOBS NUMBER DENSITY AND COLD ACCRETION MODE

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Lyman-alpha blobs (LAB) are objects that are in Lyman-alpha line very luminous $\sim 10^{43} - 10^{44}$ erg/s) and very extended ($\sim 50 - 100$ kpc in diameter) and radio quiet. LAB are discovered when Steidel et al. (2000) observed a protocluster of galaxies at $z = 3.1$ in narrow band Lyman-alpha survey. They are found mostly in protoclusters, and in less number in field. They are rare, number density of LAB at $z \sim 2 - 3$ is about 10^{-6} Mpc^{-3} to 10^{-5}Mpc^{-3}. Because of finding mostly in overdense regions and their rarity LAB could be related to formation of most massive galaxies. LAB are observed at $z \sim 1 - 6.6$, and mostly at $z \sim 2 - 3$. At $z < 1$ LAB are much rarer than at higher redshifts, in GALEX observation no LAB are found at $z = 0.8$, and later one LAB is found at $z \sim 1$. It is not still clear what is the source of energy of LAB. It is proposed that LAB could be powered by superwinds driven by starburst supernovae, by cooling radiation from cold streams of gas accreting onto galaxies, or by photoionisation by active galactic nuclei (AGN) or intense star formation. When observing LAB in different bands (e.g. X-rays) and when observing spectra of LAB, it appears that some LAB contain AGN, but that they are not energetic enough to power entire Lyman-alpha emission of LAB. Here we present our main results of comparing comoving density of LAB at different redshifts from different surveys with that from model in which LAB are powered by cooling gas.