News from $z \sim$ 6–10 galaxy candidates found behind gravitational lensing clusters

D.Schaerer[1,2], A.Hempel[1], R.Pelló[2], E.Egami[3], J.Richard[4,2], J.P.Kneib[5], M.Wise[6]

[1] *Observatoire de Genéve, 51, chemin des Maillettes, CH-1290 Sauverny, Switzerland*
[2] *Observatoire Midi-Pyrénées, Laboratoire d'Astrophysique, UMR 5572, 14 Avenue E.Belin, F-31400 Toulouse, France* [3] *Steward Observatory, University of Arizona, 933 North Cherry Street, Tucson, AZ 85721, USA*
[4] *Caltech Astronomy, MC105-24, Pasadena, CA 91125, USA*
[5] *OAMP, Laboratoire d'Astrophysique de Marseille, UMR 6110 traverse du Siphon, 13012 Marseille, France*
[6] *Sterrenkundig Instituut Anton Pannekoek, Kruislaan 403, 1098 SJ Amsterdam, The Netherlands*

Abstract

We present new results following up on our deep near-IR imaging of the strong lensing clusters Abell 1835 and AC114, which has allowed us to identify 13 star forming galaxy candidates at $z \gtrsim 7$ (Richard et al. 2006, A&A in press, [astro-ph/0606134]).

Our previous optical and near-IR observations (mostly from WFPC2/HST, CFHT, ISAAC/VLT) have now been complemented by new deep imaging with ACS/HST in the z_{850} band, with Spitzer IRAC and MIPS at longer wavelengths, and with new Chandra observations. Furthermore we have undertaken ISAAC and FORS2 spectroscopy of a number of the high-z candidates and other interesting objects in the field including possible intermediate z interlopers.

The ACS images confirm all of our high-z candidates as optical drop-out sources. Limits from Spitzer are also compatible with the high-z interpretation of the candidates.

Based on these new data we will present a re-analysis of our high-z candidates and the constraints on the star formation history at $z \sim$ 6–10. Based on detailed SED modeling we will quantify their photometric redshifts, compare them with our spectroscopic observations, and we will discuss the properties of the individual objects. Finally we'll compare our method and candidates with those from blank fields.