

The cosmological analysis of X-ray cluster surveys

A. Valotti, M. Pierre, A. Farahi, A. Evrard, L. Faccioli, J.-L. Sauvageot, N. Clerc, F. Pacaud

► **To cite this version:**

A. Valotti, M. Pierre, A. Farahi, A. Evrard, L. Faccioli, et al.. The cosmological analysis of X-ray cluster surveys: IV. Testing ASpiX with template-based cosmological simulations (Corrigendum). *Astronomy and Astrophysics - A&A*, EDP Sciences, 2018, 617, pp.C2. 10.1051/0004-6361/201731445e . cea-02999679

HAL Id: cea-02999679

<https://hal-cea.archives-ouvertes.fr/cea-02999679>

Submitted on 11 Nov 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

The cosmological analysis of X-ray cluster surveys

IV. Testing ASpiX with template-based cosmological simulations

(Corrigendum)

A. Valotti^{1,2}, M. Pierre^{1,2}, A. Farahi³, A. Evrard³, L. Faccioli^{1,2}, J.-L. Sauvageot^{1,2}, N. Clerc^{4,5,6}, and F. Pacaud⁷

¹ IRFU, CEA, Université Paris-Saclay, 91191 Gif-sur-Yvette, France
e-mail: mpierre@cea.fr

² Université Paris Diderot, AIM, Sorbonne Paris Cité, CEA, CNRS, 91191 Gif-sur-Yvette, France

³ Departments of Physics and Astronomy and Michigan Center for Theoretical Physics, University of Michigan, Ann Arbor, MI, USA

⁴ Max Planck Institut für Extraterrestrische Physik, Giessenbachstrasse 1, 85748 Garching bei München, Germany

⁵ CNRS, IRAP, 9 Av. colonel Roche, 31028 Toulouse cedex 4, France

⁶ Université de Toulouse, UPS-OMP, IRAP, Toulouse, France

⁷ Argelander Institut für Astronomie, Universität Bonn, 53121 Bonn, Germany

A&A, 614, A72 (2018), <https://doi.org/10.1051/0004-6361/201731445>

Key words. X-rays: galaxies: clusters – cosmological parameters – methods: statistical – errata, addenda

In the Valotti et al. (2018) paper, Figs. 2, 3, and 10 were published at low resolution, resulting in images that are not easy to read. We provide higher-quality figures here in the downloadable pdf.

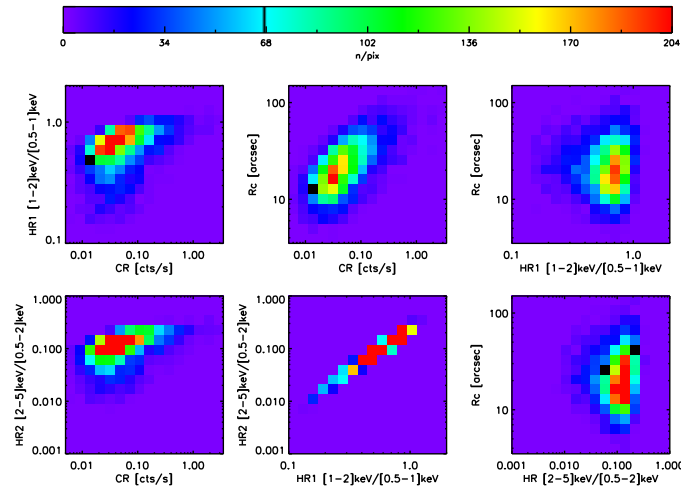


Fig. 2. X-ray observable diagram computed for a 700 deg² cluster survey, observed with 10 ks XMM exposures. *Panels 1-6:* 2D projections of the distribution of the four cluster parameters involved in the present study: CR in [0.5–2] keV, HR₁ ([1–2]/[0.5–1] keV), HR₂ ([2–5]/[0.5–2]) keV, angular cluster size r_c . The diagrams are integrated over the $0 < z < 2$ range, but this fifth dimension can be uncompressed if redshifts are available, which significantly increases the cosmological constraining power of the ASpiX method. Error measurements are not implemented in this example.

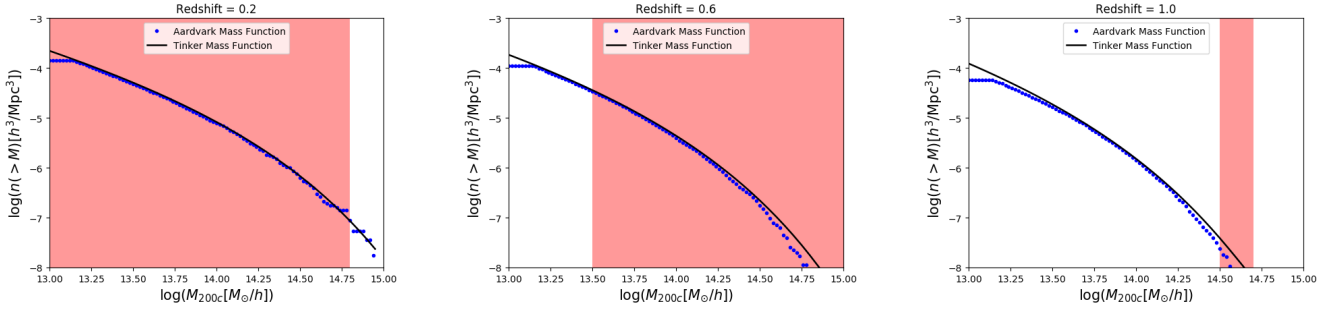


Fig. 3. Cumulative dark matter halo number density as a function of mass at different epochs. Blue dots show Aardvark simulations. The pink areas show the mass range encompassed by the C1 selection. The mass scale of $10^{13.2} M_{\odot}$ represents the halo mass resolution limit of the simulations.

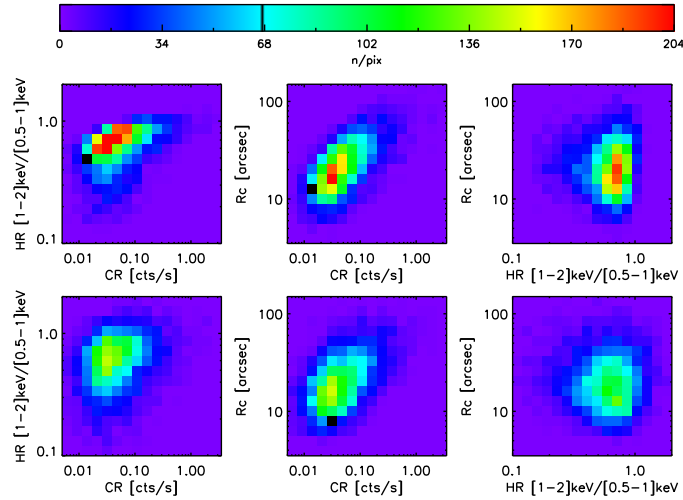


Fig. 10. Effects of measurement errors on the C1 CLEAN sample. The plots show *from left to right* the 2D diagrams CR-HR, CR- r_c , and HR- r_c . The *first row* stands for the nominal CR, HR, and r_c values stored in the Aardvark catalogues. The *second row* shows the result of the implementation of the error model displayed in Fig. 9.