



Cluster-formation in the Rosette molecular cloud at the junctions of filaments (Corrigendum)

N. Schneider, T. Csengeri, M. Hennemann, F. Motte, P. Didelon, C. Federrath, Sylvain Bontemps, J. Di Francesco, D. Arzoumanian, V. Minier, et al.

► To cite this version:

N. Schneider, T. Csengeri, M. Hennemann, F. Motte, P. Didelon, et al.. Cluster-formation in the Rosette molecular cloud at the junctions of filaments (Corrigendum). *Astronomy and Astrophysics - A&A*, 2013, 551, pp.C1. 10.1051/0004-6361/201118566E . hal-00838718

HAL Id: hal-00838718

<https://hal.science/hal-00838718>

Submitted on 1 Dec 2021

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.



Distributed under a Creative Commons Attribution 4.0 International License

LETTER TO THE EDITOR

Cluster-formation in the Rosette molecular cloud at the junctions of filaments (Corrigendum)

N. Schneider^{1,5}, T. Csengeri², M. Hennemann¹, F. Motte¹, P. Didelon¹, C. Federrath^{3,4}, S. Bontemps⁵,
 J. Di Francesco⁶, D. Arzoumanian¹, V. Minier¹, Ph. André¹, T. Hill¹, A. Zavagno⁷, Q. Nguyen-Luong¹, M. Attard¹,
 J.-Ph. Bernard⁸, D. Elia⁹, C. Fallscheer⁶, M. Griffin¹⁰, J. Kirk¹⁰, R. Klessen⁴, V. Könyves¹, P. Martin¹¹,
 A. Men'shchikov¹, P. Palmeirim¹, N. Peretto¹, M. Pestalozzi⁹, D. Russeil⁷, S. Sadavoy¹², T. Sousbie¹³, L. Testi¹⁴,
 P. Tremblin¹, D. Ward-Thompson¹⁰, and G. White^{15,16}

¹ IRFU/SAP CEA/DSM, Laboratoire AIM CNRS – Université Paris Diderot, 91191 Gif-sur-Yvette, France
 e-mail: nschneid@cea.fr

² Max-Planck Institut für Radioastronomie, Auf dem Hügel, Bonn, Germany

³ Monash Centre for Astrophysics (MoCA), School of Mathematical Sciences, Monash University, 3800 Victoria, Australia

⁴ Zentrum Astronomie, Universität Heidelberg, Inst. Theor. Astrophysik, Albert-Ueberle Str. 2, 69120 Heidelberg, Germany

⁵ OASU/LAB-UMR5804, CNRS, Université Bordeaux 1, 33270 Floirac, France

⁶ National Research Council of Canada, Herzberg Institute of Astrophysics, Victoria BC, Canada

⁷ Laboratoire d'Astrophysique de Marseille, CNRS/INSU – Université de Provence, 13388 Marseille Cedex 13, France

⁸ Université de Toulouse, UPS, CESR, 9 Av. du colonel Roche, 31028 Toulouse, France

⁹ IAPS-INAF, Fosso del Cavaliere 100, 00133 Roma, Italy

¹⁰ Cardiff University School of Physics and Astronomy, Cardiff, UK

¹¹ CITA & Dep. of Astronomy and Astrophysics, University of Toronto, Toronto, CA, Canada

¹² Department of Physics and Astronomy, University of Victoria, PO Box 355, STN CSC, Victoria BC, Canada

¹³ Institut d'Astrophysique de Paris, UPMC, UMR 7095, CNRS, 98 Bd Arago, 75014 Paris, France

¹⁴ ESO, Karl Schwarzschild Str. 2, 85748 Garching, Germany

¹⁵ Department of Physics & Astronomy, The Open University, Milton Keynes MK7 6AA, UK

¹⁶ The Rutherford Appleton Laboratory, Chilton, Didcot, OX11 0NL, UK

A&A 540, L11 (2012), DOI: 10.1051/0004-6361/201118566

Key words. ISM: clouds – ISM: structure – evolution – HII regions – errata, addenda

The paper by Schneider et al. (2012) contains an error in Sect. 2.2 and in Fig. 6. The bottom y -axis label of Fig. 6 must read “PDF(η)” instead of “ $\log_{10}$ PDF(η)”. The corrected version of the figure is shown in Fig. 1 here. In Sect. 2.2 of Schneider et al. (2012), the slope fitted to the high-density tail of the composite PDF, Fig. 6 (here Fig. 1), in Rosette was wrongly quoted to correspond to a radial volumetric density profile $n \propto r^{-0.65}$. The value of the slope -0.65 actually corresponds to the radial column density profile, $N \propto r^{-0.65}$. Since $n \propto N/r$, this translates into the equivalent volumetric density profile, $n \propto r^{-1.65}$ (see the derivation of the relation between PDF slopes and (column) density profiles in Federrath & Klessen 2013). Hence the statement in Sect. 2.2 is incorrect, i.e., that the “exponent is smaller than what is typically found for dense cores (-1.5 to -2), suggesting that on large (cloud)-scales, turbulence is the dominating process compared to gravity”. The corrected value $n \propto r^{-1.65}$ is much closer to what is found in related studies (e.g., Arzoumanian et al. 2011) and suggests that gravitational collapse – at least locally – does play an important role in Rosette and likely is the reason for the high-density power-law tail in Fig. 1.

References

- Arzoumanian, D., André, P., Didelon, P., et al. 2011, A&A, 529, L6
 Federrath, C., & Klessen, R. S. 2013, ApJ, 763, 51
 Schneider, N., Csengeri, T., Hennemann, M., et al. 2012, A&A, 540, L11

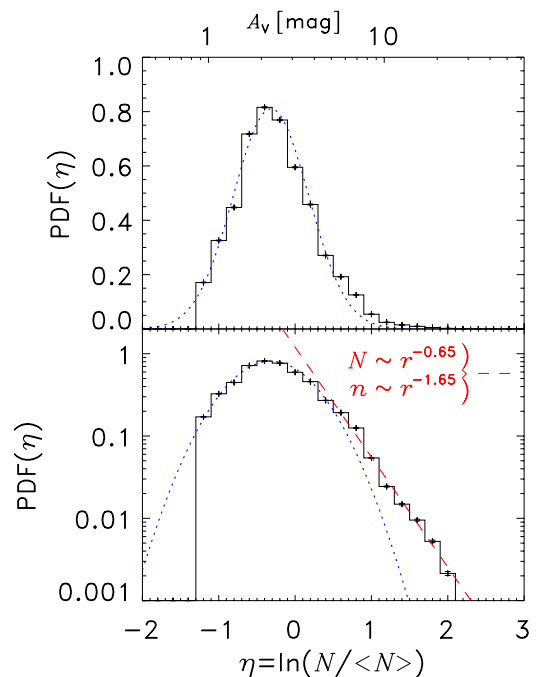


Fig. 1. Corrected version of Fig. 6 in Schneider et al. (2012).