



Cold Electrons at Comet 67P

Anders Eriksson, Ilka Engelhardt, Erik Vigren, Fredrik Johansson, Elias Odelstad, Niklas Edberg, Pierre Henri, Nicolas Gilet

► To cite this version:

Anders Eriksson, Ilka Engelhardt, Erik Vigren, Fredrik Johansson, Elias Odelstad, et al.. Cold Electrons at Comet 67P. European Planetary Science Congress 2018, Sep 2018, Berlin, Germany. 18 pp. insu-03565613

HAL Id: insu-03565613

<https://insu.hal.science/insu-03565613>

Submitted on 11 Feb 2022

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

Cold Electrons at Comet 67P

Anders Eriksson (1), Ilka Engelhardt (1,2), Erik Vigren (1), Fredrik Johansson (1,2), Elias Odelstad (1,2), Niklas Edberg (1), Pierre Henri (3), Nicolas Gilet (3) and Martin Rubin (4)

(1) Swedish Institute of Space Physics, Uppsala (anders.eriksson@irfu.se), (2) Uppsala University, Sweden, (3) LPC2E, Université d'Orléans, France, (4) University of Bern, Switzerland

Abstract

We present observations of cold (around or below 0.3 eV) in the coma of comet 67P covering all the Rosetta mission. While cold electrons were most abundant around perihelion (1.25 AU), we show their existence as far out as 3 AU. To explain the observations at low activity, we suggest that this is an effect of the ambipolar electric field keeping the electrons close to the nucleus and therefore give them time to cool on the neutrals.