The Radio and Plasma Waves (RPW) Instrument on Solar Orbiter : Capabilities, Performance and First results.

Milan Maksimovic, Jan Souček, Stuart D. Bale, Xavier Bonnin, Thomas Chust, Yuri Khotyaintsev, Matthieu Kretzschmar, Dirk Plettemeier, Manfred Steller, Štěpán Štverák

► To cite this version:

Milan Maksimovic, Jan Souček, Stuart D. Bale, Xavier Bonnin, Thomas Chust, et al.. The Radio and Plasma Waves (RPW) Instrument on Solar Orbiter : Capabilities, Performance and First results.. 22nd EGU General Assembly, 2020, Online, France. 10.5194/egusphere-egu2020-5800 . insu-03560753

HAL Id: insu-03560753

<https://hal-insu.archives-ouvertes.fr/insu-03560753>

Submitted on 8 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

EGU2020-5800

<https://doi.org/10.5194/egusphere-egu2020-5800>

EGU General Assembly 2020

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.

The Radio and Plasma Waves (RPW) Instrument on Solar Orbiter : Capabilities, Performance and First results.

Milan Maksimovic¹, Jan Souček², Stuart D. Bale^{3,4}, Xavier Bonnin¹, Thomas Chust⁵, Yuri Khotyaintsev⁶, Matthieu Kretschmar⁷, Dirk Plettemeier⁸, Manfred Steller⁹, and Štěpán Štverák¹⁰

¹LESIA, Observatoire de Paris, Université PSL, CNRS, Sorbonne Université, Univ. Paris Diderot, Sorbonne Paris Cité, 5 place Jules Janssen, 92195 Meudon, France (milan.maksimovic@obspm.fr)

²Institute of Atmospheric Physics, Czech Academy of Sciences, Prague CZ-14131, Czech Republic

³Space Sciences Laboratory, University of California, Berkeley, CA, USA

⁴Physics Department, University of California, Berkeley, CA, USA

⁵LPP, CNRS, Ecole Polytechnique, Sorbonne Université, Observatoire de Paris, Université Paris-Saclay, PSL Research University, Palaiseau, Paris, France

⁶Swedish Institute of Space Physics (IRF), Uppsala, Sweden

⁷LPC2E, CNRS, 3A avenue de la Recherche Scientifique, Orléans, France ; 7. Université d'Orléans, Orléans, France

⁸Technische Universität Dresden, Würzburger Str. 35, D-01187 Dresden, Germany

⁹Research Institute, Austrian Academy of Sciences, Graz, Austria

¹⁰Astronomical Institute, Czech Academy of Sciences, CZ-14100 Prague, Czech Republic

We will review the instrumental capabilities of the Radio and Plasma Waves (RPW) Instrument on Solar Orbiter which at the time of writing this abstract is planned for a launch on February 5th 2020. This instrument is designed to measure in-situ magnetic and electric fields and waves from 'DC' to a few hundreds of kHz. RPW will also observe solar radio emissions up to 16 MHz. The RPW instrument is of primary importance to the Solar Orbiter mission and science requirements, since it is essential to answer three of the four mission overarching science objectives. In addition, RPW will exchange on-board data with the other in-situ instruments, in order to process algorithms for interplanetary shocks and type III Langmuir waves detections. If everything goes well after the launch, we will hopefully be able to present the first RPW data and results gathered during the commissioning.