

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 Maksimovic**<sup>1</sup>, Jan Souček<sup>2</sup>, Stuart D. Bale<sup>3,4</sup>, Xavier Bonnin<sup>1</sup>, Thomas Chust<sup>5</sup>, Yuri Khotyaintsev<sup>6</sup>, Matthieu Kretschmar<sup>7</sup>, Dirk Plettemeier<sup>8</sup>, Manfred Steller<sup>9</sup>, and Štěpán Štverák<sup>10</sup>

<sup>1</sup>LESIA, 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)

<sup>2</sup>Institute of Atmospheric Physics, Czech Academy of Sciences, Prague CZ-14131, Czech Republic

<sup>3</sup>Space Sciences Laboratory, University of California, Berkeley, CA, USA

<sup>4</sup>Physics Department, University of California, Berkeley, CA, USA

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

<sup>6</sup>Swedish Institute of Space Physics (IRF), Uppsala, Sweden

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

<sup>8</sup>Technische Universität Dresden, Würzburger Str. 35, D-01187 Dresden, Germany

<sup>9</sup>Research Institute, Austrian Academy of Sciences, Graz, Austria

<sup>10</sup>Astronomical 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 5<sup>th</sup> 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.