

RADar para Detection and Avoidance em Veículos Aéreos Não Tripulados

RADAVANT
E6.4
RADAVANT PROJECT IN SCIENTIFIC
AND TECHNICAL EVENTS (EN)
O PROJETO RADAVANT EM EVENTOS
CIENTÍFICOS E TÉCNICOS (PT)

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SUMMARY (EN):

This Deliverable lists the scientific and technical events in which the work developed within RADAVANT has been present. We describe the relevance of the chosen events and how the project's work has been communicated and disseminated.

SUMÁRIO (PT):

Este Entregável Deliverable lista os eventos científicos e técnicos em que o trabalho desenvolvido no âmbito do RADAVANT esteve presente. Descrevemos a relevância dos eventos escolhidos e a forma como o trabalho afeto ao projeto foi comunicado e divulgado.

Keyword list: UAV, Drones, Radar, Scientific, Technical, Communication, Dissemination

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List of Acronyms

APC	Antennas and Propagation Conference
APS	Antennas & Propagation Society
APWC	Antennas and Propagation in Wireless Communications
ConfTELE	Conference on Telecommunications
CSNDSP	Communication Systems, Networks and Digital Signal Processing
GASS	General Assembly and Scientific Symposium
IEEE	Institute of Electrical and Electronics Engineers
IET	Institution of Engineering and Technology
IT	<i>Instituto de Telecomunicações</i>
URSI	International Union of Radio Science (<i>Union Radio Scientifique Internationale</i>)
STDCC	Swept Time-Delayed Cross-Correlation

1. Scope

This Deliverable presents how the Consortium has taken RADAVANT's work to scientific and technical events, identifying these and their relevance to the project, and how authors have communicated and disseminated work developed within the project to the public.

2. Scientific and Technical Events Contributed to

2.1. Relevance of Event and Participation

The Consortium has contributed to the following scientific and technical events, communicating and disseminating the RADAVANT project, in several manners:

IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (APWC 2019), Granada, Spain, September 2019

The Antennas and Propagation in Wireless Communications Conference (APWC) is a very highly reputed international conference, in the areas of Antennas, Propagation and Wireless Communications, with the principal technical cosponsorship of the IEEE Antennas and Propagation Society and the technical cosponsorship of the International Union of Radio Science (URSI).

The authors have contributed with the presentation of a conference paper in the format of an oral presentation, in the *Radars & Propagation: Technologies, Waveforms and Interference Issues* session, fostering the dissemination and discussion on RADAVANT's radar implementation. During other sessions and in-between sessions, the authors present have discussed RADAVANT's work, with important dissemination of results and views on the matter.

The IET's Antennas and Propagation Conference APC 2019, Birmingham, UK, November 2019

The Antennas and Propagation Conference (APC) a very highly reputed international conference, relevant in the areas of Antennas and Propagation. It covers all aspects of theory, design and modelling of antenna systems and associated components, as well as theoretical and experimental studies of electromagnetic wave propagation at any frequency.

The authors have contributed with the presentation of a conference paper, with a poster display and direct public contact, fostering the dissemination and discussion on RADAVANT's antenna implementation, which included the first images of the monoblock antenna prototype implementation. During other sessions and in-between sessions, the authors present have discussed RADAVANT's work, with important dissemination of results and views on the matter.

XXXIII General Assembly and Scientific Symposium (GASS) of the International Union of Radio Science (Union Radio Scientifique Internationale-URSI), Rome, Italy, August 2020

The URSI-GASS is the General Assembly and Scientific Symposium (GASS) of the International Union of Radio Science (URSI, www.ursi.org), a very highly-reputed international conference in the area of Radio Science.

The authors have contributed with the presentation of a conference paper, in the *Metrology Solutions for Radar Systems and Propagation* session, fostering the dissemination and discussion on RADAVANT's radar implementation. During other sessions and in-between sessions the authors present have discussed RADAVANT's work, with important dissemination of results and views on the matter.

"Let's Talk About Tech" online event, session "Radar to the Spotlight", Bosch Portugal, June 2020

The authors have contributed with a keynote speech in the online event "Let's Talk About Tech", organized by Bosch Portugal, in the session "Radar to the Spotlight", dedicated to radar technology and techniques, fostering the discussion on pseudo-random radars and dissemination of the Swept Time-Delayed Cross-Correlation (STDCC) technique and RADAVANT's baseband radar implementation.

12th IEEE/IET International Symposium on Communication Systems, Networks and Digital Signal Processing-CSNDSP, Porto, Portugal, July 2020

The Communication Systems, Networks and Digital Signal Processing (CSNDSP) is an internationally known conference, relevant in the areas of Communication Systems, Networks and Digital Processing.

The authors have contributed with the presentation of a conference paper, in the *Waveforms for communications, remote sensing and medical applications* session, fostering the dissemination and discussion on RADAVANT's digital baseband radar implementation. During other sessions and in-between sessions the authors present have discussed RADAVANT's work, with important dissemination of results and views on the matter.

12th Conference on Telecommunications (ConfTELE), Leiria, Portugal, February 2021

The ConfTELE is the 12th Conference on Telecommunications organised by Instituto de Telecomunicações (IT), aiming to bring researchers, engineers and students together to present and discuss the latest advances and newly emerging trends in all fields of telecommunications.

Particularly in 2021, the conference will be hosted by IT-Lr and Polytechnic of Leiria, in Leiria, Portugal.

The authors will contribute with an oral presentation of a conference paper fostering the dissemination and discussion on RADAVANT's radio front-end implementation.

2.2. Paper Contributions in Events

Rafael Caldeirinha, João Reis, André Sardo, Luís Duarte, Nuno Leonor, João Gil and Carlos Ribeiro, "Disruptive Future of Radar Based on All-Digital PN Signal Processing", presented at the IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (APWC 2019), Granada, Spain, September 2019;

João Reis, Rafael Caldeirinha and Carlos Ribeiro, "Novel parabolic dish antenna for RADAR applications", presented at The IET's Antennas and Propagation Conference APC 2019 Conference, Birmingham, UK, November 2019;

André Sardo, João Reis, Luis Duarte, Nuno Leonor, Carlos Ribeiro, Rafael Caldeirinha, "STDCC radar at 24 GHz: first measurement trials", presented at the XXXIII General Assembly and Scientific Symposium (GASS) of the International Union of Radio Science (Union Radio Scientifique Internationale-URSI), Rome, Italy, August 2020;

Luís Duarte, Carlos Ribeiro, Luís N. Alves and Rafael Caldeirinha, "All-digital reconfigurable STDCC radar baseband implementation in FPGA", presented at the 12th IEEE/IET International Symposium on Communication Systems, Networks and Digital Signal Processing - CSNDSP, Porto, Portugal, July 2020.

Luís Duarte, João R. Reis, Nuno Leonor, Carlos Ribeiro, Luís N. Alves and Rafael F. S. Caldeirinha, "Reconfigurable millimetre-wave RF front-end for radar and 5G applications", 12th Conference on Telecommunications (ConfTELE), Leiria, Portugal, Feb.2021 (paper accepted at the time of this document).

2.3. Other Event Contributions

Rafael Caldeirinha, "Pseudo-random radars", presented in the online event "Let's Talk About Tech", in the session "Radar to the Spotlight", Bosch Portugal, June 2020.

3. Conclusions

This Deliverable E6.4 lists the scientific and technical events in which the work developed within RADAVANT has been present.

During the year 2020, part of RADAVANT's work has had to be delayed due to the COVID-19 pandemic, and face-to-face dissemination at physical events has been reduced, either by the cancellation of events, postponing of others. The Consortium was anyhow able to keep dissemination and communication of the project's work active.

The work related to RADAVANT's radar processing blocks and the radar antennas has been spread, presented and discussed in several opportunities, within relevant international and national, scientific and technical events, for the important scientific and technical public. Such presence has been made to coincide with crucial outputs from the RADAVANT project, in order to account for any relevant inputs from academic and technical peers, in these fields.