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Description of the Organization

The Microwave Laboratory of ICCS – National Technical University of Athens (NTUA) is specialized in the design, development and simulation of systems based on electromagnetic theory and technology. From 1984 the Laboratory participated to more than 80 European project as coordinator (30) or participant institution. The scientific topics the Laboratory include: telecommunication systems, new type sensors including geophysical applications, renewable energy systems, electromagnetic compatibility, biomedical systems. New computational techniques to simulate physical and biology systems has been developed. The Laboratory is associated with the Postgraduate studies of the School of Electrical and Computer Engineering of the NTUA.

Description of your research interest

The participating research group of the Microwave Laboratory has the following experience in the related topics:

- Electromagnetic compatibility of wind turbine electric power generators with telecommunication and radar systems.
- Focused solar radiation power generator systems.
- Imaging of deep earth layers by measuring extremely low frequencies during the day-night and night-day transition of the bottom of ionosphere.

Project Idea

Relevant Horizon Cluster 5 project ideas

HORIZON-CL5-2021-D3-02-14

Support to the activities of the European Geological Services

TITLE: DEEP REGIONAL EARTH IMAGING USING EXTREMELY LOW ELECTROMAGNETIC SIGNALS DURING THE DAY-NIGHT TRANSITION.

- Objectives:
 - Development of a passive imaging system based on monitoring ELF signals and inversion algorithms,
- Expected results
 - Development of a novel sensor system to provide images at deep earth energy sources.

Project Idea

Relevant Horizon Cluster 5 project ideas

HORIZON-CL5-2021-D3-03-05

Wind energy in the natural and social environment

Please add TITLE: DEVELOPMENT OF INTERFERENCE SUPPRESSION TECHNIQUES PRODUCED BY WIND TURBINE ENGINES TO TELECOMMUNICATION AND RADAR SYSTEMS.

- Objectives:
 - Quantitative assessment of electromagnetic interference phenomena of rotating wings of wind turbine energy generators and develop techniques to mitigate their effects to telecommunication /radar systems.

Project Idea

Relevant Horizon Cluster 5 project ideas

HORIZON-CL5-2021-D3-03-06

Novel approaches to concentrated solar power (CSP)

Please add TITLE: DEVELOPMENT OF FOCUSED SOLAR RADIATION DIRECT STEAM GENERATION AND STORING UNIT.

- Objectives:
- Design and development of concentrated solar radiation power generator for local rural communities.



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