

2021 IEEE INTERNATIONAL WORKSHOP ON

Metrology for AeroSpace

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 UNIVERSITÀ DEGLI STUDI DI NAPOLI
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 >>>> *for the Special Session on*

MECHANICAL AND THERMAL METROLOGY FOR AEROSPACE APPLICATIONS

> ABSTRACT

This special session is aimed to the research in thermal and mechanical measurement techniques devoted to aerospace applications.

Indeed, aircrafts and spacecrafts are subject to several types of loads, that imply risks for objects and people. Moreover, new challenging programs are continuously scheduled, both in aeronautical and space world. For these reasons, improvements in measuring techniques in these fields are mandatory.

In order to respond to the requirements of aerospace standards, all these techniques require careful analysis from a metrological point of view and it is also necessary to have high accuracy calibration systems. This kind of optimization by means of these two aspects allows scientist to increase the quality of the measurements performed.

An important rule is played by the thermal and mechanical sensors, monitoring the temperature and integrity conditions of the structures, by means of: thermal mappings, heat flux measurements, non-destructive tests, strain and displacement measurements, vibrations experimental analysis, accelerometry, spectroscopy, thermography.

> TOPICS

Topics for this Special Session include but are not limited to:

- New investigation methods and sensors for mechanical applications;
- New investigation methods and sensors for thermal applications;
- Numerical studies for innovative experimental sensors;
- New measurement techniques for thermal and mechanical sensors;
- Innovative measurement methods and sensor systems for non-destructive tests;
- New sensors for dynamic and static analysis of structural systems;
- Plasma experimental analysis by means of spectroscopic sensors;

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