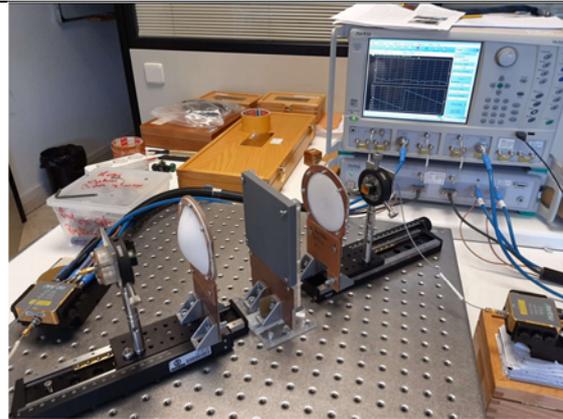


## Scientific Workshop SW02

### Challenges in Modern Material Measurements (AMTA Workshop)

#### Abstract:

In the past, electromagnetic material characterization measurements focused primarily on extracting the permittivity and permeability of simple media at microwave frequencies. However, recent advancements in technology have made it possible to fabricate and consequently measure more exotic (i.e., non-simple) media well into the optical regime. These modern materials present many challenges to the measurement community since they may exhibit nonlinear, non-isotropic, spatially nonlocal, time-varying and/or nonreciprocal behaviour. The primary goals of this workshop are to discuss challenges encountered in extracting electromagnetic constitutive parameters of exotic materials and to subsequently identify potential solutions via invited talks and group participation.



#### Workshop Program (Thursday 25 March 2021, 10h-11.40h)

The workshop is essentially dedicated to invited talks on the various types of modern materials and their constitutive relations, including nonlinear, non-isotropic, spatially/temporally nonlocal, spatially/temporally nonhomogeneous media. The talks will discuss techniques and challenges of measuring the electromagnetic properties of these modern materials, and material measurement techniques in challenging frequency bands, as the millimetre wave one and beyond. Discussions encouraging participation will allow the attendees to share ideas and solutions.