SUNDAY 08:30 – 17:50

Acoustic Wave Filters for Space Applications

WS03
EuMC

Chair: Sylvain Ballandras[1]
Co-Chair: Eric Dominguez[1]
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Room: Quest

The last decades have seen a continuous improvement of mobile systems, from pioneer analogue voice telephony in the 80's to the Long Term Evolution in the 2010, and 5G nowadays: Gbps data rates are considered and billions of Subscriber Identification Modules (SIM) cards are located in Smartphones, Lap-Top and Internet of Things (IoT) devices. At the same time, satellite systems have evolved: from single GEO (Geosynchronous Earth Orbiting) equipments offering overseas services for international connections or few analogue TV channels to Low Earth Orbiting (LEO) constellations like Starlink or One Web, thousands of satellites are now deployed, delivering Internet Protocol based services for mobile or fixed users usually going through base stations. During the past ten years, a significant number of innovations have been developed to enhaunce the capability of passive acousto-electric devices to answer the imperative demands of filter characteristic improvment: Piezo-OnInsulator wafers, epitaxial-layer based films for BAW and SAW, new types of modes and devices, frequency operation increases, etc. All these improvements push to reconsider the use of such devices for satellite/Space communications Therefore, the workshop intends to illustrate, promote and foster all initiatives engaged in the domain of acousticbased RF filter solutions to answer the "New Space" needs and requirements in all the spectral segment of space telecommunications, from L- to C-band and pushing away the usually considered limits for SAW and BAW filters to achieve filtering operations above 10 GHz.

PROGRAMME

SAW filter technology trends for space applications
Olivier Vendier[1]
[1]TAS

Single crystal BAW
Marie Bousquet[1]
[1]CEA-Leti

Innovative SAW filter structures on POI for Space applications
Thierry Laroche[1]
[1]SOITEC SA, Besançon site

Advanced materials for POI wafers with high isolation properties
Jean-Pierre Raskin[1]
[1]UCL

SAW filters for space applications
Tormod Bjørnetun Haugen[1]
[1]Kongsberg

Innovative Acoustic Devices
Silvan Settler[1]
[1]École polytechnique fédérale de Lausanne (EPFL)

Combined BAW and IPD filters for 6G communications
Tuomas Pensala[1]
[1]VTT

New developments of SAW devices on POI
Baron Thomas F[1]
[1]FEMTO-ST

Evaluation tests for advanced SAW filters on POI for Space applications
Kaoutar Zeljami[1]
[1]ALTER Technoogy