



Space, the new frontier for digital coherent optics, Sébastien Bigo

Satellite communications have caught growing interest to bring broadband services in low-density populated areas or to complement terrestrial networks with duplicated connectivity in case of disaster. For such communications, free space optical links are promising alternatives to radio links because they can provide $\sim 1000\times$ larger bandwidth while reducing the size, weight and power consumption by $>50\%$. While state of the art free space optical links carries 10 Gbps data, digital coherent optics could bring a capacity leap with $\geq 100\text{Gbps}$ per optical link. However, free space optical links suffer from several specific impairments, which need to be addressed. In this talk, we will review recent advances in the field.