

6D manipulation: IT steps towards

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Abstract

Data signals are increasing in complexity since, in the past few years, complex combinations of modulation formats in the signal available dimensions have been explored (eg: time, phase, polarization, amplitude, etc). This migration brings complexity to different points of the network, since more and more electronic processing is now being added to demodulate this complexity into the simplicity of serial bits ready to be processed. Hence, within the years, different kinds of regenerators were presented and developed in order to cope with typical dimensions used in data transmission (time, amplitude, shape), the common 3R. However, nowadays, with the current implementation of these complex mixed formats, this activity of recovering the signals has to be tuned and expanded to a higher number of dimensions, covering all the signal properties in a combined and transparent manner. In IT, we are starting some activities on the subject and these are going to be addressed shortly in the presentation along with the concept.

Biography

António Luís Jesus Teixeira was born in Portugal, on November 17, 1970. He received the Licenciatura degree in Electronics Engineering and Telecommunications, in July of 1994 and the Ph.D. degree in Electrical Engineering, in 1999, all from the University of Aveiro, Portugal. He is currently an Assistant Professor at the Dep. of Electronics, Telecommunications and Informatics of the University of Aveiro and researcher at the Institute of Telecommunications – Aveiro. His research interests include DWDM optical networks, dispersion compensation, fiber Bragg gratings and radio over fiber technologies. He is member of the Institute of Electrical and Electronics Engineers (IEEE) and of the Optical Society of America (OSA). He has authored more than 300 papers (more than 60 in journals), 4 patents and 3 book chapters.