



A BLIND SPATIO TEMPORAL EQUALIZATION OPERATING ON A POLARIZATION (MonPmPO1)

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★ Abstract :

This paper presents an application of a blind spatio temporal equalization based on the Constant Modulus Algorithm (C.M.A.). The context is the development of an operational system of transmission through the ionospheric channel for transhorizon radio links and the technical challenge is to increase significantly the data transfer rate of standard modems (typically 4.8 kbits/s in a 3 kHz bandwidth). The multi channel receiving system is connected to an original array of collocated antennas which appears as polarization sensitive and, consequently, makes the separation of the incident multi paths efficient though there is no spatial diversity. An experimental radio link has been tested with a range of 780 km. The corresponding results underline the improvement of the bit transfer rate which attains 30 kbits/s in a 9 kHz bandwidth resorting to a QAM 16 waveform.