

**Abstract of the Disclosure**

An equalization technique for the compensation of degradation caused by multipath Rayleigh fading channels to the transmission of digitally modulated signals such as $\frac{\pi}{4}$ Differential Quadrature Phase Shift Keying (DQPSK) modulated signals. The technique is applicable to both linear and nonlinear transversal equalizers. Based on the Method of Projection onto Convex Sets (POCS), the technique is realized in an iterative form. The convergence speed of equalization depends on the magnitude of a look-back parameter, and is comparable to the speed of recursive least square based equalizers. The computational complexity of the technique also is variable and is adaptable to the convergence speed requirements. For achieving convergence speeds as recursive least square techniques, the computational load required of the presented equalization is of the order of the load required of the recursive least square techniques, but its program implementation is exceedingly simpler. At the same time the code size, memory and power consumption requirements are lower.