

Performance of OCDMA systems using a complementary subtraction technique

What we believe to be a new code structure to reduce the multiple access interference in a spectral amplitude coding optical code-division multiple access system based on double-weight code families is proposed. Enhanced double weight (EDW) possesses ideal cross-correlation properties, and weight can be any odd number that is greater than 1. The theoretical analysis shows that EDW codes can more effectively suppress the phase-induced intensity noise and provide a significantly better performance compared with modified quadratic congruence and partial modified prime codes.