

Slowlight in semi-conductor amplifier. Application to programmable time delays for the control of microwave signals

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Abstract – The control of time delays of large bandwidth microwave signals for radar applications is demonstrated through slowlight in SOA. An original optical architecture is implemented on the basis of a monomode laser with single sideband modulation. Time delays ranging from 5 to 50 ps were measured within 15 GHz bandwidth. Achievement of larger delays is expected using long active medium and quantum dots structures.