Optical Modulator Based On Gaas Photonic Crystals Spie

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Optical Modulator Based On Gaas

OF A Polarization Independent GaAs-AlGaAs Electrooptic ...
independent GaAs-AlGaAs interferometric optical modulator based on this design has been fabricated and characterized at 13 pm This modulator is fabricated as a traveling wave modulator incorporating 50 (1, phase velocity matched, low microwave loss electrodes for maximum electrical bandwidth I INTRODUCTION P

telecom High-Speed Modulators for Fibre-Optic Communication
based on lithium niobate (LiNbO 3) have become more popular because of its low optical loss and high electro-optic coefficient Next is described the working of amplitude and phase modulators, fol-lowed by their comparison with semi-conductor modulators based on GaAs (gallium arsenide) and InP (indium phosphate) Design of lithium niobate

GaAs/A1GaAs Traveling Wave Electro-optic Modulators
GaAs/A1GaAs Traveling Wave Electro-optic Modulators R Spickermann, S R Sakamoto, and N Dagli Department of Electrical and Computer Engineering University of California Santa Barbara, CA 93106 ABSTRACT A GaAs/A1GaAs traveling wave Mach-Zehnder electro-optic modulator with novel slow wave electrodes was fabricated on undoped epitaxial layers

GaAs-based surface-normal optical modulator compared to Si ...
GaAs-based surface-normal optical modulator compared to Si and its wavelength response characterization using a supercontinuum laser Ojas P

Kulkarni,* Mohammed N Islam and Fred L …

GaAs-based polarization modulators for microwave photonic …

filter (MPF), optical frequency comb (OFC), arbitrary waveform generation (AWG) and beamforming Chal-lenges in practical implementation of the PolM-based systems and their promising future are discussed as well Keywords GaAs, polarization modulator (PolM), optoe-lectronic oscillator (OEO), frequency conversion, micro-wave photonics filter (MPF)

A novel GaAs optical waveguide electrooptic modulator

A novel GaAs optical waveguide electrooptic modulator M BELANGER, J F CURRIE, R MACIEJKO, S 1 NAJAFI, AND A YELON Groupe des couches minces et Departement de

Monolithic Integration of GaAs/AlGaAs Phase Modulator and …

optical powers, on the same substrate with the phase modulator can be very useful This work describes the design and monolithic fabrication of high modulation efficiency, high electrical bandwidth phase modulators with high efficiency, high-speed photodetectors on a GaAs substrate The

An optical modulator based on a single strongly coupled …

An optical modulator based on a single strongly coupled quantum dot - cavity system in a p-i-n junction Dirk Englund1,2, Andrei Faraon1, Arka Majumdar1, Nick Stoltz3, Pierre Petroff3 & Jelena Vuckoviˇ´c1 1Department of Electrical Engineering, Stanford University, Stanford CA 94305; 2Department of Physics, Harvard University, Cambridge MA 02138; 3Dept of Electrical and Computer Engineering

GaAs MQW Modulators Integrated with Silicon CMOS

a modulator and a CMOS transistor I INTRODUCTION F OR many years now a much desired goal of those working on optical interconnects and optical computing has been the integration of high density silicon electronics with high performance GaAs-based optoelectronics In particular, the possibility of direct optical communication to logic chips

Electroabsorption modulators based on bulk GaN films and …

Ultraviolet electroabsorption modulators based on bulk GaN films and on GaN/AlGaN multiple GaAs the exciton binding energy (4 meV) is substantially bandgap radiation can be expected In fact, a UV optical modulator based on a 04-lm-thick GaN film grown by met-alorganic chemical vapor deposition (MOCVD) has been

Evaluation of InAs quantum dots on Si as optical modulator

Evaluation of InAs quantum dots on Si as optical modulator based on GaAs [16–18]orInP[19, 20] We have previously shown that the QDs grown on Si substrates exhibited the QCSE [7], shifting the peak responsivity with applied bias, suggesting the possibility of

Polymer-based Hybrid Integrated Photonic Devices for …

The polymer based optical modulators are more advantageous for broadband operation over other modulators based on gallium arsenide (GaAs), indium phosphide (InP) or silicon For reference, 10GB/s and 40Gb/s nonreturn-to-zero and return-to-zero GaAs …

An Ultrafast Switchable Terahertz Polarization Modulator …

polarization modulator based on GaAs semiconductor nanowires arranged in a wire-grid configuration We utilize an optical pump−terahertz probe spectroscopy system and vary the polarization of the optical pump beam to demonstrate ultrafast THz modulation with a switching time of less than 5 ps and a modulation depth of −8 dB

Thermal and optical simulation of a photonic crystal light …

Thermal and optical simulation of a photonic crystal light modulator based on the thermo-optic shift of the cut-off frequency M T Tinker and J-B Lee Department of Electrical Engineering, University of Texas, Dallas, Texas 75083-0688 mtinker@utdallasedu Abstract: Ultra …

Ultra-low power fiber-coupled gallium arsenide photonic …

ambiguity of whether optical sources will originate on- or off-chip in a silicon-based or III-V material is still a topic of debate; thus the possibility of combining a III-V modulator with a III-V laser source could be a superior alternative Gallium arsenide (GaAs) has a stronger free

Nanostructure Based Electro -optic Modulators for High …

Nanostructure Based Electro -optic Modulators for High Speed Optical Communication B Das and P Singaraju Dept Electrical Engineering, University of Nevada, Las Vegas, NV, USA 89154-4026 ABSTRACT We are currently developing a CMOS-compatible optical modulator based on semiconductor nanostructure arrays that

GAAS: A Measurement-Based Distributed Large-Signal E/O …

A measurement-based distributed large-signal E/O circuit model for high-speed electroabsorption modulators source and modulator are decoupled (ie the source is optically in which the optical absorption and the related refractive index are modulated by varying the electric field across the intrinsic layer They can be designed either

Theory of electro-optic modulation via a quantum dot …

Theory of electro-optic modulation via a quantum dot coupled to a nano-resonator N Stoltz, P Petroff, and J Vuckovic,“ An optical modulator based on a single strongly coupled quantum dot - cavity system in a p-i-n junction,” Opt Express 17, 18651–18658 (2009) (QD) embedded in a GaAs photonic crystal resonator The system operates

17.5 Monolithic Integration of an Electroabsorption …

Monolithic Integration of an Electroabsorption Modulator into a GaAs-based Duo-cavity VCSEL for Resonance-free Modulation J van Eisden1, Electro-optical modulator can be integrated directly into the 175 Monolithic Integration of an Electroabsorption Modulator into a GaAs-based Duo-cavity VCSEL for Resonance-free Modulation

A Mixed GaAs Modulator and HEMT MMIC Process Line On …

A Mixed GaAs Modulator and HEMT MMIC Process Line On 150mm Wafers J Thompson, DJ Warner, CL Sansom, PA Claxton and D Parker (both gallium arsenide- and indium phosphide-based), photodiodes and GaAs or lithium niobate modulators The work reported here For all GaAs modulators, optical loss is a key parameterto sustain and