

130 GHz 超広帯域ハイブリッド型ポリマ・ゾルゲルシリカ導波路マッハツェンダ型光変調器**130 GHz ultra-broadband hybrid polymer/sol-gel waveguide Mach-Zehnder modulators****榎波康文¹, 關淳², 増田伸², Jingdong Luo², Alex K-Y. Jen²****(1 高知工科大学、2 アドバンテスト研究所、3 ワシントン大学)****[○]Yasufumi Enami¹, Atsushi Seki², Shin Masuda², Jingdong Luo², Alex
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The electrical RF transmission S_{21} for Mach-Zehnder optical modulators based on a hybrid electro-optic polymer/sol-gel silica waveguide was demonstrated at a modulation frequency of up to 110 GHz (limit of our equipments) and then extrapolated to a 6 dB bandwidth of 130 GHz. The half-wave voltage and electrode length product corresponded to 4.15 Vcm (a single driving), which corresponds to 2.08 Vcm for a dual driven modulation. An in-device electro-optic coefficient, r_{33} of 140 pm/V at a wavelength of 1.55 μ m was obtained for the ultra-broadband MZ modulators.