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| **Title:** | High Intrinsic Modulation Bandwidth InGaAsP/InGaAsP 1.55μm Asymmetric Active Multimode Interferometer Laser Diode by Using Split Pump Configuration | | |
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| **Abstract:** |  |
| 1.55 µm InGaAsP/InGaAsP multiple quantum well (MQW) asymmetric active multimode laser diode (active MMI-LD) with split pumping scheme has been demonstrated. Asymmeric configuration ensures the singlewavelength output from the designed device. Moreover, the advantage of having large multimode active pumping section behind the splitted modulation section is the key contributor for having higher photon density in modulation section without increasing the device length. By utilizing the split pump configuration in the designed active MMI-LD, high intrinsic 3 dB modulation bandwidth of 24.6 GHz is achieved. To the best of our knowledge this is the highest reported intrinsic modulation bandwidth for active MMI-LD. Required photon density to achieve more than 40 GHz 3 dB bandwidth for direct modulation is also clarified. | |