|  |  |  |  |
| --- | --- | --- | --- |
| **Title:** | Performance Enhancement of Laser based Modern Railway Mobile Platform Crossing System | | |
| **Author(s) Name:** | Md. Ashiquzzaman | | |
| **Contact Email(s):** | ashiquzzaman.eee@aiub.edu | | |
| **Published Journal Name:** | Trends in Opto Electro & Optical Communications (TOEOC © STM Journals) | | |
| **Type of Publication:** | Journal | | |
| **Volume:** | 4 | Issue | 1 |
| **Publisher:** |  | | |
| **Publication Date:** | July 2014 | | |
| **ISSN:** | 2231-0401 | | |
| **DOI:** |  | | |
| **URL:** | <http://www.stmjournals.com/index.php?journal=TOEOC&page=article&op=view&path%5B%5D=4731> | | |
| **Other Related Info.:** | pp- 23-28 | | |
|  | | | |

|  |  |
| --- | --- |
| **Abstract:** |  |
| In this work, the modern railway mobile platform crossing system is improved through the proper computation of GaInP based 635 nm multiple quantum well red laser maintaining the perfect peak intensity of the power which is achieved at 635 nm. By analyzing the performance of the designed Ga0.5In0.5P/ (Al0.5Ga0.5)0.5In0.5P edge emitting laser the peak material gain is obtained. Sustaining threshold current of 6.7 mA, a maximum resonance frequency of 10 GHz has been obtained for the designed laser at 90 mA injection current at 300 K temperature. With the increase of injection current the designed red laser can supply more power. So the use of this improved powered laser can make more secured modern railway mobile platform crossing system. | |