

## 2007 年度業績 — 藤原 康文

### 学術論文・解説記事

1. 日高圭二、平松隆、寺井慶和、江龍修、藤原康文, TEGa, TBAs を用いた有機金属気相エピタキシャル法による低温 GaAs の作製, 材料, 56(9), pp. 880-885, 2007
2. Y. Fujiwara, S. Takemoto, K. Nakamura, K. Shimada, M. Suzuki, K. Hidaka, Y. Terai and M. Tonouchi, Ultrafast carrier-trapping in Er-doped and Er,O-codoped GaAs revealed by pump and probe technique, Physica B, 401-402, pp. 234-237, 2007
3. Y. Fujiwara, S. Takemoto, T. Tokuno, K. Hidaka, H. Ichida, M. Suzuki, Y. Terai, Y. Kanematsu and M. Tonouchi, Mechanism of excitation and relaxation in Er,O-codoped GaAs for 1.5mm light-emitting devices with extremely stable wavelength, Physica Status Solidi (a), 205(1), pp. 64-67, 2007
4. Y. Fujiwara, K. Nakamura, S. Takemoto, J. Sugino, Y. Terai, M. Suzuki and M. Tonouchi, Direct observation of picosecond-scale energy-transfer processes in Er,O-codoped GaAs by pump-probe reflection technique, Physics of Semiconductors, AIP Conference Proceedings, Vol. 893, pp. 245-246, 2007
5. K. Shimada, Y. Terai, S. Takemoto, K. Hidaka, Y. Fujiwara, M. Suzuki and M. Tonouchi, Terahertz radiation from Er,O-codoped GaAs surface grown by organometallic vapor phase epitaxy, Applied Physics Letters, 92(11), pp. 111115-1-3, 2008
6. K. Yamaoka, N. Okada, Y. Yoshizako, Y. Terai and Y. Fujiwara, Influence of plasma gases on insulating properties of low-temperature deposited SiOCH films by remote plasma-enhanced chemical vapor deposition, Japanese Journal of Applied Physics, 46(4B), pp. 1997-2000, 2007
7. K. Yamaoka, Y. Terai, N. Okada, Y. Yamaguchi, Y. Yoshizako and Y. Fujiwara, Low temperature deposition of amorphous carbon films for surface passivation of carbon-doped silicon oxide, Advanced Materials Research, 26-28, pp. 645-648, 2007
8. Y. Terai, Y. Maeda and Y. Fujiwara, Nondestructive investigation of b-FeSi<sub>2</sub>/Si interface by photoluminescence measurements, Thin Solid Films, 515(22), pp. 8129-8132, 2007
9. K. Yasutake, N. Tawara, H. Ohmi, Y. Terai, H. Kakiuchi, H. Watanabe and Y. Fujiwara, Characterization of epitaxial silicon films grown by atmospheric pressure plasma chemical vapor deposition using porous carbon electrode, Japanese Journal of Applied Physics, 46(4B), pp. 2510-2515, 2007
10. 藤原康文, 希土類添加 GaAs 結晶の原子レベル制御成長と新規発光デバイスへの応用, オプトロニクス, 27(3), pp. 157-163, 2008
11. Y. Terai, T. Tokuno, H. Ichida, Y. Kanematsu and Y. Fujiwara, Electroluminescence properties of GaInP/GaAs:Er,O/GaInP double heterostructure light-emitting diodes at low temperature,

Optical Materials, 印刷中, 2008

12. Y. Terai, K. Hidaka and Y. Fujiwara, Organometallic vapor phase epitaxy of Er,O-codoped GaAs using trisdipivaloylmethanatoerbium, Journal of Physics Conference Series, 印刷中, 2008
13. K. Fujii, K. Hidaka, D. Yamamoto, Y. Terai and Y. Fujiwara, GaAs emission from GaInP/Er,O-codoped GaAs/GaInP laser diodes grown by organometallic vapor phase epitaxy, Physica Status Solidi (c), 印刷中, 2008
14. A. Fujita, T. Tokuno, K. Hidaka, K. Fujii, K. Tachibana, H. Ichida, Y. Terai, Y. Kanematsu and Y. Fujiwara, Nonradiative processes at low temperature in Er,O-codoped GaAs grown by organometallic vapor phase epitaxy, Physica Status Solidi (c), 印刷中, 2008
15. K. Shimada, S. Takemoto, K. Hidaka, Y. Terai, M. Tonouchi, and Y. Fujiwara, Ultrafast photoexcited carrier dynamics in GaAs:Er,O by pump and probe transmission spectroscopy, Physica Status Solidi (c), 印刷中, 2008
16. K. Yamaoka, Y. Terai and Y. Fujiwara, Effects of RF power on impurity-doped zinc oxide films by plasma-enhanced chemical vapor deposition, Physica Status Solidi (c), 印刷中, 2008
17. S. Hashimoto, Y. Terai, A. Kakiuchi and Y. Fujiwara, Epitaxial growth of Al-doped  $\beta$ -FeSi<sub>2</sub> thin film on Si(111) substrate by molecular beam epitaxy, Physica Status Solidi (c), 印刷中, 2008

#### シンポジウム開催状況

1. 第 27 回電子材料シンポジウム, 参加人数 240 (外国人参加者数 0)
2. Handai Nanoscience and Nanotechnology International Symposium 2007, 参加人数 230 (外国人参加者数 9)

#### 特許権などの知的財産権

1. 光アシスト型磁気記録装置, 発明者: 神吉輝夫、河原敏男、藤原康文、河合知二、寺井慶和、堀田育志、浅川直紀、田畑仁、関宗俊, 権利者: 大阪大学、特願 2007-228376、出願年月日: 平成 19 年 9 月 3 日
2. テラヘルツ光伝導基板、並びに、それを用いたテラヘルツ光検出装置、テラヘルツ光発生装置、およびテラヘルツ光測定装置発明者: 藤原康文、寺井慶和、斗内政吉、川山巖、島田和哉、柴田雅史, 権利者: 大阪大学、特願 2008-81158、出願年月日: 平成 20 年 3 月 26 日