Jyh-Shyang Wang

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Molecular beam epitaxy, Semiconductor materials and devices

◆ Research Interests

- Jyh-Shyang's research is in the molecular beam epitaxy and characteristic of the compound semiconductor materials and devices. Research topics include the growth of novel quantum structures, diluted magnetic semiconductors, white light LED and solar cells.

◆ Selected Publications

- **J. S. Wang***, W. J. Chen, C. S. Yang, Y. H. Tsai, H. H. Wang, R. H. Chen, J. L. Shen, and C. D. Tsai " Improving stability of photoluminescence of ZnSe thin films grown by molecular beam epitaxy by incorporating Cl dopant " *Appl. Phys. Lett.* Vol. 98, 021908, (2011).
- **J. S. Wang*,** C. S. Yang, P. I. Chen, C. F. Su, W. J. Chen, K.C. Chiu, and W. C. Chou " Catalyst-free highly vertically aligned ZnO nanoneedle arrays grown by plasma-assisted molecular beam epitaxy " *Applied Physics A* Vol. 97, pp. 553-557, (2009).
- **J. S. Wang***, C. S. Yang, M. J. Liou, C. X. Wu, K. C. Chiu, and W. C. Chou " Influence of Zn/O flux ratio and Mn-doped ZnO buffer on the plasma-assisted molecular beam epitaxy of ZnO on c-plane sapphire" *J. Crystal Growth*, Vol. 310, pp.4503-4506, (2008)
- **J. S. Wang***, S. H. Yu, Y. R. Lin, H. H. Lin, C. S. Yang, T. T. Chen, Y. F. Chen, G. W. Shu, J. L. Shen, R. S. Hsiao, J. F. Chen, and J. Y. Chi "Optical and structural properties of vertically stacked and electronically coupled quantum dots in InAs/GaAs multilayer structures" *Nanotechnology* Vol. 18, 015401, (2007).
- C. S. Yang, Y. J. Lai, W. C. Chou, D. S. Chen, **J. S. Wang***, K. F. Chien, and Y. T. Shih "Quasi-Stranski-Krastanow growth mode of self-assembled CdTe quantum dots grown on ZnSe by molecular beam epitaxy" *J. Crystal Growth* Vol. 301-302, pp. 301-305, (2007).

◆ Recent Research Projects

- Fabrication and characteristic of magnetic semiconductor quantum structures, sponsored by National Science Council (August 2009 ~ July 2012)
- Single chip white light LED, sponsored by National Science Council (August 2010 ~ July 2011)