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Yong-Hang Zhang

Professor

Associate Dean for Research

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Research expertise: Optoelectronic materials and devices such as solar cells, laser diodes and photodetectors

Yong-Hang Zhang joined the faculty in 1996 from Hughes Research Laboratories. He has published over 290 book chapters and research articles in refereed journals and conference proceedings, has 11 issued U.S. patents, has edited three conference proceedings and authored or co-authored more than 390 invited and contributed conference presentations.

Professional preparation

Ph.D., Max-Planck Institute for Solid States and University Stuttgart – Germany, 1991

M.S.C., semiconductors, Academia Sinica – Beijing and Graduate College of the Chinese Science and Technology University, 1987

B.S.C., physics, Nanjing Normal University – Nanjing – China, 1982

Recognition and awards

IEEE and OSA Fellow

Innovation and Excellence in Laser Technology and Applications Award from Hughes Research Labs

Multiple best student presentation awards

Chair and co-chair of numerous international conferences and workshops

Professional associations

IEEE Senior Member

Selected publications

Y. Zhao, M. Boccard, S. Liu, J. Becker, X.-H. Zhao, C. M. Campbell, E. Suarez, M. B. Lassise, Z. Holman, and Y.-H. Zhang, *Monocrystalline CdTe Solar Cells with Open-Circuit Voltage Over 1 V and Efficiency of 17 %*, *Nature Energy* 1, 16067 (2016)

A.D. Prins, M.K. Lewis, Z.L. Bushell, S.J. Sweeney, S. Liu, Y.-H. Zhang, *Evidence for a defect level above the conduction band edge of InAs/InAsSb type-II superlattices for applications in efficient infrared photodetectors*, *Appl. Phys. Lett.* 106, 171111 (2015)

S. Liu, X.-H. Zhao, C. M. Campbell, M. B. Lassise, Y. Zhao, Y.-H. Zhang, *Carrier lifetimes and interface recombination velocities in CdTe/Mg_xCd_{1-x}Te double heterostructures with different Mg compositions grown by molecular beam epitaxy*, *Appl. Phys. Lett.* 107, 041120 (2015)

J. Fan, X. Liu, L. Ouyang, R. E. Pimpinella, M. Dobrowolska, J. K. Furdyna, D. J. Smith, and Y.-H. Zhang, *Molecular beam epitaxial growth of high-reflectivity and broad-bandwidth ZnTe/GaSb distributed Bragg reflectors*, *J. Vac. Sci. Technol. B* 31, 03C109 (2013)

S. H. Lim, J.-J. Li, E. H. Steenberg, Y.-H. Zhang, *Luminescence coupling effects on multi-junction solar cell external quantum efficiency measurement*, *Progress in Photovoltaics: Research and Applications*, 21, 344–350 (2013)

E. H. Steenberg, B. C. Connelly, G. D. Metcalfe, H. Shen, M. Wraback, D. Lubyshev, Y. Qiu, J. M. Fastenau, A. W. K. Liu, S. Elhamri, O. O. Cellek, and Y.-H. Zhang, *Significantly improved minority carrier lifetime observed in a long-wavelength infrared III-V type-II superlattice comprised of InAs/InAsSb*, *Appl. Phys. Lett.* 99, 251110 (2011)

D. Ding, S. R. Johnson, S.-Q. Yu, S.-N. Wu, and Y.-H. Zhang, *A Semi-Analytical Model for Semiconductor Solar Cells*, J. Appl. Phys. 110, 123104 (2011)

S. Wang, D. Ding, X. Liu, X.-B. Zhang, D. J. Smith, J. K. Furdyna, and Y.-H. Zhang, *MBE growth of II/VI materials on GaSb substrates for photovoltaic applications*, J. of Cryst. Growth, 311, 2116 (2009)

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