Seminars

6.1-Å semiconductors and their applications in optoelectronics

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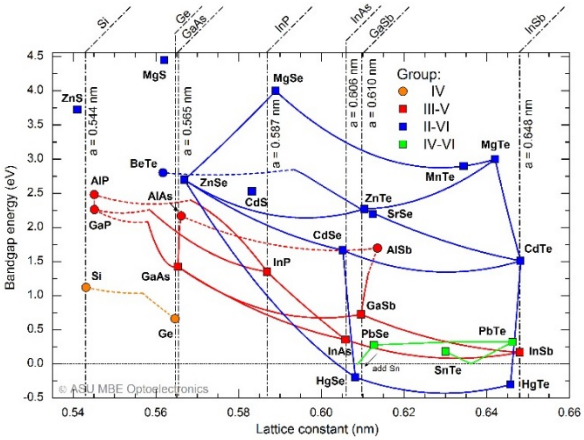
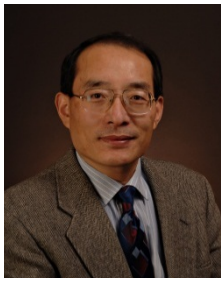
Abstract: Semiconductors with a lattice constant of 6.1 Å cover a very broad range of bandgap energies and other desirable properties for optoelectronic device applications, such as lasers, photodetectors, and solar cells. In this talk, I will cover two related topics: i) InAs/InAsSb type-II superlattices and their applications in IR photodetectors and laser applications, ii) heterovalent integration of II-VI and III-V semiconductors on GaSb substrate for device applications.





Brief Bio: Professor Zhang received his BS in Physics from Nanjing Normal University in 1982 and MS from the Institute of Semiconductor, Chinese Academy of Sciences, in 1987, and did his research at the Max Planck Institute for Solid States and received this doctoral degree in physics from the University of Stuttgart in 1991. He then worked as an Assistant Research Engineer at UCSB before he joined Hughes Research Labs in 1993. In 1996, he was appointed Associate Professor in the Department of Electrical Engineering at ASU and was promoted to full professor in 2000. He edited 3 books, published 3 book chapters and more than 290 peered reviewed papers, presented 388 invited and contributed talks, 14 issued and pending US patents, and advised over 30 PhD students and supervised over 40 postdocs and visiting scholars. He is a fellow of IEEE and OSA, and served as the Associate Dean for Research at the Fulton Schools of Engineering, and is the founding director of the Center for Photonics Innovation, and the director of a university user facility ASU NanoFab. His areas of research interest include MBE growth, optical properties of semiconductor heterostructures, optoelectronic devices, and their applications. More information about his group can be found on the webpage: http://asumbe.eas.asu.edu/.