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GeSn thin film alloys for infrared optoelectronics[1] JAY MATHEWS, Department of Physics, University of Dayton, ZAIRUI LI, YINING LIU, Department of Electro-Optics and Photonics, University of Dayton — GeSn alloys are attractive for infrared emission due to the tunable band gap in the infrared and the quasi-direct or direct nature of the gap. Epitaxial growth of GeSn on Si has been demonstrated using multiple growth techniques and is now being incorporated into commercial device fabrication. Photodetectors covering a wide range of near- to mid-IR wavelengths have been realized. Recently, laser emission from GeSn waveguides on Si has been demonstrated at temperatures up to 240 K, but the search for room temperature Si-based laser continues. In this talk, I will discuss the recent results of optical characterization of GeSn alloys grown using a new remote plasma-enhanced chemical vapor deposition.

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