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Activities in III-V Compound Thin Film Materials Grown by SSMBE and GSMBE

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ABSTRACT

The purpose of this presentation is to give a more or less complete picture of the development and the recent advances in the growth, characterization and applications of III-V compound thin films grown by solid source molecular beam epitaxy(SSMBE) and gas source molecular beam epitaxy(GSMBE) in our laboratory. The first SSMBE system was set up in 1982 in our institute, there are now three SSMBE growth chambers and one GSMBE system. Three type of material systems have been studied, including both of basic and application studies: (1) GaAs and related compound thin films for HBT, laser devices; (2) InP and related thin films for millimeter-wave devices and optical devices; (3) GaSb and related compound thin films for detectors, lasers and tunneling devices. Hall stripping method, Electrolyte C-V, Photo-voltage spectroscopy, Fourier transform infrared spectroscopy, Fourier transform photoluminescence spectroscopy, X-ray double crystal diffraction were applied to evaluation the quality of those thin films.

Contributors:

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