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# Specifics of obtaining lightly-doped aluminium gallium arsenide layers for photodetectors

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*As follows from physical models of optoelectronic devices, lightly-doped aluminium gallium arsenide layers make it possible to create epitaxial structures for highly efficient photodetectors, solar energy phototransducers, temperature sensors, ionizing radiation sensors. The article studies the possibility of obtaining a lightly-doped aluminium gallium arsenide layer via a new efficient liquid-phase epitaxy method by means of doping the solution melt with rare earth elements or with analogues that allow the carrier concentration to go down. We describe the advantages of using ytterbium over scandium for doping solution melts. We consider possible mechanisms behind this phenomenon.*

**Keywords:** heterostructure, complex doping, scandium, ytterbium

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