

Chapter 1

Fig. 6 – Fig. 24 & Table I – Table III

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Fig. 4 Progress of III-V solar cell technology in the last 6 years.

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Fig. 4 Progress of III-V solar cell technology in the last 6 years.

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Fig. 15 – Fig. 21 & Table VIII – Table IX



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Chapter 3

Fig. 4 Current best three approaches for highest 1J GaAs-on-Si solar cells utilizing a thick GaAs buffer (left), thick SiGe buffer (middle) and utilizing multiple super-lattice periods [4,5,6].

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Fig. 4 Current best three approaches for highest 1J GaAs-on-Si solar cells utilizing a thick GaAs buffer (left), thick SiGe buffer (middle) and utilizing multiple super-lattice periods [4,5,6].

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Fig. 4 Current best three approaches for highest 1J GaAs-on-Si solar cells utilizing a thick GaAs buffer (left), thick SiGe buffer (middle) and utilizing multiple super-lattice periods [4,5,6].

Ref.[6]--

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Fig. 14 Cross-sectional TEM micrograph of GaAs buffer grown on Si with an $\text{In}_{0.07}\text{Ga}_{0.93}\text{As}$ interlayer showing how the single strained layer is helping to bend the dislocation due to the misfit strain [15].

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Fig. 19 Comparison between the calculated minimum critical layer thicknesses versus the misfit strain calculated from mechanical equilibrium and the energy equilibrium models [14].

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Chapter 7

Fig. 1

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