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عنوان مقاله:

Heteroepitaxial Growth of InSb Directly on (001) GaAs Without Any Buffer Layer Using Growth Rate Ramping by MBE

محل انتشار:

بیستمین کنفرانس مهندسی برق ایران (سال: 1391)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

Heteroepitaxial InSb layers were grown on semiinsulating (001) GaAs substrates without any buffer layer showing good quality and acceptable electron mobilities at both77K and 300K. The heteroepitaxial growth was started with the lowest possible rate by slowly ramping of Indium source temperature from its idle value up to the nominal onecorresponding to a growth rate of approximately a micron per hour. This procedure speeds up the production and eliminatesunwanted impurities without losing much mobility as a tradeoff. Also some empirical lines fitted to previously reported dataindicating that creditable 77K (300K) mobilities of heteroepitaxial InSb/GaAs layers are within 30%-80% (50%- 100%) of minimum homoepitaxial mobilities, and half of our measured mobilities are well within the regions

کلمات کلیدی:

Heteroepitaxy, Buffer, Molecular Beam Epitaxy (MBE), Indium Antimonide (InSb

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