

РЕФЕРАТ

Роботу викладено на 47 сторінках, вона містить 3 розділів, 18 ілюстрацій, 2 таблиці та 74 джерела в переліку посилань.

Об'єктом дослідження став структурований HgCdTe утворений додованням йонів срібла до матриці напівпровідника.

Предмет роботи – зміна структурних, оптичних, та електрофізичних параметрів HgCdTe, які зумовлені дією іонної імплантації іонами В⁺ та Ag⁺.

Метою даної роботи є визначення фізичних властивостей синтезованої композитної структури на базі p-Hg_{1-x}Cd_xTe (x ~ 0.223), як гібридного функціонального матеріалу для НВЧ- та ІЧ- мікроелектроніки.

Перший інформаційно-аналітичний розділ роботи дозволив визначити спектр питань вирішення яких дозволить розробити сучасний спосіб формування нанорозмірного рельєфу на поверхні ЕШ напівпровідника HgCdTe.

У другому розділі викладено методики дослідження та коротко надано інформацію про досліджувані зразки.

У третьому розділі вивчається наноструктурований шар на поверхні н/п матеріалу отриманий методом імплантації іонами В⁺ та Ag⁺.

ABSTRACT

The work presented on 47 pages consists of 3 parts, 18 figures, 2 tables and 74 sources in the list of references.

Structured HgCdTe obtained by Ag ion processing was the object of the study.

The subject of the work is changes in structural, optical, and electrophysical parameters of HgCdTe, which are due to the action of ion implantation with B⁺ and Ag⁺ ions.

The purpose of the work is determination of the physical properties of the synthesized composite structure based on p-Hg_{1-x}Cd_xTe (x ~ 0.223) as a hybrid functional material for microwave and infrared microelectronics.

The first information-analytical section of the work allows to determine the range of issues which solving will allow to develop a modern way of forming nanosized relief on the surface EL of the HgCdTe semiconductor.

The second section describes the research methods and briefly provides information about the samples being studied.

In the third section, the nanostructured layer on the surface of the SC material is studied by the method of ion processing with the ions B⁺ and Ag⁺.

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