Thematic Section: Research Ultralow Temperatures._____ **Full Paper**
Subsection: Physical Chemistry of Semiconductors. *Reference Object Identifier* – ROI: jbc-02/15-41-2-155
The article is published on materials of the report on "International Scientific Forum Butlerov Heritage – 2015". http://foundation.butlerov.com/bh-2015/ *(English Preprint)*
Submitted on March 14, 2015.

Crystallization of cadmium telluride on single crystal substrates cooled with liquid nitrogen

© **Alexey P. Belyaev**,[1+]* **Vladimir P. Rubets**,[2] and **Svetlana A. Belyaeva**[2]
[1] *Department of Phisical and Colloidal Chemistry. St. Petersburg State Chemical-Pharmaceutical Academy. Professor Popov St., 14. St. Petersburg, 197376. Russia. Phone: +7 (820) 234-11-28. E-mail: Alexei.Belyaev@pharminnotech.com.*
[2] *Department of Analitical Chemistry. Saint Petersburg State Institute of Technology (Technical University). Moscovskiy pr. 26. Saint-Petersburg, 190013. Russia. Phone: +7 (812) 494-93-71. E-mail: vladimir@mail.ru*

*Supervising author; [+]Corresponding author

Keywords*:* heteroepitaxy, ultralow temperatures, thin films, synthesis from vapor phase, structural studies, A2B6 compounds.

Abstract

Heteroepitaxy at ultralow temperatures is reported. Formation of an ordered monocrystalline state was for the first time observed in condensation of semiconductor films from vapor phase on crystalline substrates cooled with liquid nitrogen. Feasibility of targeted impact on structural type and crystalline perfection of the synthesized materials has been demonstrated

Results are presented of technological experiments and structural studies of A2B6 compounds formed on mica and silicon substrates.

Condensation diagrams, micrographs, electron diffraction patterns and X-ray diffraction spectra are presented.