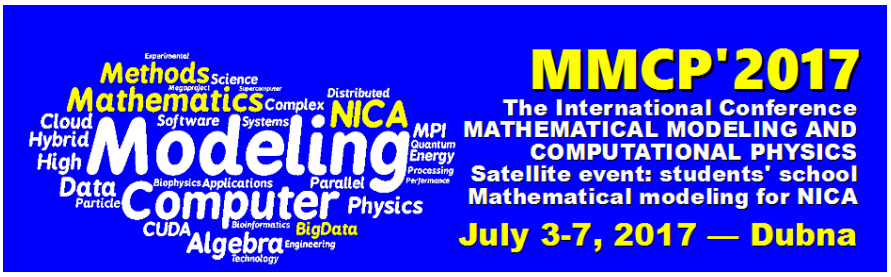

Contribution ID: **110** Type: **not specified**

Numerical methods for the prediction and optimization of the cryosurgery operations

Thursday, 6 July 2017 14:15 (15 minutes)

In this talk we consider the problem of planning and optimization of the cutaneous cryosurgery operations. The method of the additional heating and freezing elements mounting is studied as an approach to optimize the cellular necrosis front propagation. Mathematical modeling is used for the effectiveness improvement of the method under consideration. An explicit scheme based on the finite volume approximation of phase averaged Pennes bioheat transfer model is applied . The flux relaxation method is used for the stability improvement of scheme.

Primary author: Prof. KUDRYASHOV, Nikolay (National Research Nuclear University MEPhI)

Co-authors: Mr GAIUR, Ilya (National Research Nuclear Univesity MEPhI); Mr SHILNIKOV, Kirill (National Research Nuclear University MEPhI); Mr KOCHANOV, Mark (National Research Nuclear University MEPhI)

Presenter: Mr SHILNIKOV, Kirill (National Research Nuclear University MEPhI)

Session Classification: Mathematical methods and application software for modeling complex systems and engineering (III)