情報科学研究科 重点プロジェクト

数学と諸分野の協働推進による 学際的・総合的な新領域研究の開拓

MATHEMATICS ✕ EXTENSIVE SCIENCE

第18回講演会 兼 第65回応用数学連携フォーラム

日時　2017年10月31日（火）16時00分～17時20分

会場　東北大学　情報科学研究科棟2階　中講義室

講演者　Dr. Sergey Minaev
（Far-Eastern Federal University, Russia）

タイトル　Hierarchy of nonlinear equations of combustion theory

概要　In mathematical modeling of combustion processes there is a wide range of different problems related to fluid mechanics, gas dynamics, chemical kinetics and nonlinear physics. An analytical study within the framework of complete models that take into account all the characteristics of combustion is practically impossible because of the large span in time and spatial scale of the processes. In this case, the only realistic approach is the use of simplified nonlinear equations aimed at describing a specific phenomenon. The seminar will discuss simplified nonlinear models of flame front instability and their exact solutions, nonlinear models arising in the chemical kinetics of combustion and models describing localized in the space individual hotspots of combustion. The discussion will be attended by Dr.Viatcheslav Bykov (Karslruhe Institute of Technology, Germany), specialist in reduction of chemical kinetics model and Dr.Vladimir Gubernov (P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Russia), specialist in nonlinear dynamics of reactive-diffusion systems.

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