

第119回

附属社会創造数学センター主催

北大MMCセミナー

Date : 2021年7月16日(金) 16:45~18:15

(※開始時刻が通常より15分遅くなります。)

Speaker : 高 月圓 (北海道大学電子科学研究所)

GAO, Yueyuan (Hokkaido University)

Place : Online開催 (事前登録制)

Title : 有限体積法による数値計算の応用

Finite volume method for numerical simulations of some applications

Abstract :

In this talk, we start by presenting the main idea of the finite volume method through implementing the numerical scheme for the Poisson equation in space dimension 2.

We then present some applications. The first example is a benchmark problem on the extraction of seawater containing lithium by injecting fresh water into the cross-section of a coastal aquifer. By solving a system of partial differential equations, we simulate the process that the fresh water and the seawater mix and then discharge into a vertical seaward boundary. It is joint work with Danielle Hilhorst and Huy Cuong Vu Do.

The second example is some applications in material science. We mainly present the simulations of Cahn-Hilliard equation which generate one typical 3D nanoporous structure for Li-ion battery. It is joint work with Jiuhui Han at Tohoku University.

And lastly, we present some basics of my undergoing work at the Laboratory of Mathematical modeling, Hokkaido University.

※参加ご希望の方は、北海道大学電子科学研究所人間数理研究分野秘書 富澤 (tomisawa@es.hokudai.ac.jp) までメールで お名前・所属・職名・メールアドレス をご連絡ください。
参加申込締切 2021年7月15日(木) 15時00分 厳守