

**The Maxwell-Stefan system, its gradient flow
structure, and the problem of uniqueness of weak
solutions**

Athanasios Tzavaras

King Abdullah University of Science and Technology

athanasios.tzavaras@kaust.edu.sa

We consider the Maxwell-Stefan system and discuss the following items:
(i) How it emerges in the high-friction limit of multi-component Euler flows.
(ii) The question of uniqueness of weak solutions for the Maxwell-Stefan model.
(iii) The construction of numerical schemes for the Maxwell-Stefan system associated with the minimization of frictional dissipation.
(based on joint works with Xiaokai Huo, Ansgar Jüngel, Hailiang Liu and Shuaikun Wang)