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Well-Posedness of a non-isothermal Cahn-Hilliard system

In this talk we derive and analyze a temperature dependent Cahn-Hilliard system. We start with a general approach that models non-isothermal systems by combining ideas from non-equilibrium thermodynamics with an energetic variational approach. From this general toolbox we can derive models consistent with the existing literature, but also extend and generalize the existing models allowing for a better understanding of the temperature dependent phase separation. The large variety of these thermodynamically consistent models opens the question which model is the more suitable from an analytical and physical point of view. For the analysis part of this talk we will focus on one model and show in detail the well-posedness of classical solutions. The methods used in this part include the theory of Besov spaces and paradifferential calculus.

This is joint work with F. De Anna, C. Liu and A. Schlömerkemper.

Ort: Zoom video conference	Zeit: Donnerstag, 16.12.2021 um 14:30 Uhr

You are cordially invited to this lecture. Request the Zoom link from anja.schloemerkemper@mathematik.uni-wuerzburg.de

gez. Anja Schlömerkemper