

## **OpenPhase - the open source phase field simulation library**

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We present an open source phase field simulation library “OpenPhase” which is based on a multi-phase field multi-component model of Steinbach et al. [Steinbach et al., 1996; Steinbach, 2009]. The library is intended for high quality quantitative simulations of processes that involve structural and phase transformations. It contains modules that allow simultaneous solving the multi-phase field equations, equations for advection and diffusion of different components, Navier-Stokes equation for a liquid phase flow including the interaction with solid structures and elastic problem. The modular structure of the library allows for easy extension and modification by adding new modules. Several simulation examples related to the metallurgical processes will be presented.

The library is distributed in the form of an open and free of charge source code which is available at [www.OpenPhase.de](http://www.OpenPhase.de).