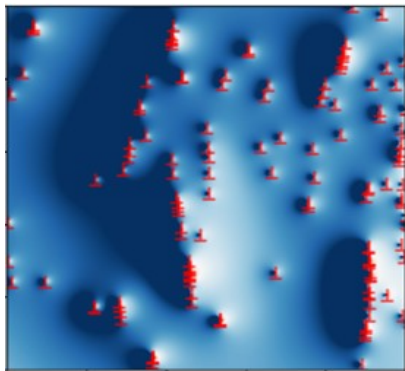


Hiwi gesucht!

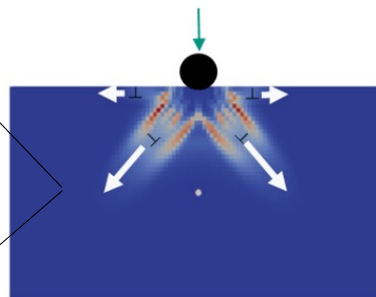
Multi-scale Material Simulation

Background

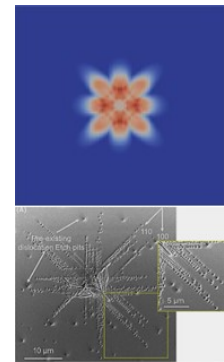
The CDD (Continuum Dislocation Dynamic) project is a C++ based parallel finite element program developed at the Institute for Applied Materials (IAM-ZM) and designed for simulating the coupling between mechanical properties and microstructures of metals. It collaborates with M++, an open-source finite element program developed at the Institute for Applied and Numerical Mathematics (IANM) within the Scientific Computing group at KIT.



Stress field within an element



Indentation problem simulated by CDD



Javaid et al. (2018)

Objective

- Support code development for the latest theory in dislocation-based crystal plasticity modeling and numerical schemes.
- Construct the experimental setup for CI/CD.
- Collaborate with the Scientific Computing team at IAM-ZM (KIT) and IANM (KIT) to enhance computational efficiency.

Requirements

- Keen interest in numerical computing/simulation with a C++ project.
- Programming knowledge of C++, python, R, OpenMPI, and git are advantages.

Contact

Prof. PD Dr.-Ing. Katrin Schulz
*Institut für Angewandte Materialien —
Zuverlässigkeit und Mikrostruktur (IAM-ZM)*
Email: katrin.schulz@kit.edu

M.Sc. Sing-Huei Lee
*Institut für Angewandte Materialien —
Zuverlässigkeit und Mikrostruktur (IAM-ZM)*
Email: sing-huei.lee@kit.edu