

Vector-valued Phase-field Models of Obstacle Type

Orestis VANTZOS

We present a class of phase-field models based on the double-obstacle Ginzburg-Landau functional. They involve vector-valued potentials with values constrained on convex sets beyond the classic Gibbs complex, and are therefore suitable for the modeling of multi-phase problems with various complicated domain/junction arrangements. We discuss their efficient variational discretization, based on De Giorgi's minimizing movements, and certain interesting geometrical insights concerning their behavior in the sharp limit.

References

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