

COMPUTING MINIMAL PARTITIONS**Antonin Chambolle¹, Daniel Cremers² and Thomas Pock³**¹CMAP, Ecole Polytechnique, CNRS

91128 Palaiseau, France

²Computer Science, Bonn University, Germany³Graz University of Technology, Austria

We will present a convex representation for the minimal partition problem, based on the notion of “paired calibrations” [2], [3]. We propose an efficient algorithm for minimizing this problem, and discuss the practical implementation with “many” labels. It can be applied to a number of problems, from segmentation to stereo reconstruction. The quality of the results is substantially better than with the approaches based on Pott’s model, although the computational cost can be quite high. We also discuss the possibility of minimizing energies with a bulk term, such as the Mumford-Shah functional, following the “calibration” approach of [1].

References

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- [2] K. A. Brakke, Soap films and covering spaces, *J. Geom. Anal.*, **5** (1995) 445–514.
- [3] G. Lawlor and F. Morgan, Paired calibrations applied to soap films, immiscible fluids, and surfaces or networks minimizing other norms, *Pac. J. Math.*, **166** (1994) 55–83.