

# MULTIGRID METHODS FOR VARIATIONAL MOTION COMPUTATION IN VIDEOS

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## Abstract

Analysing motion in image sequences is a key problem in computer vision, and its applications range from robot navigation over driver assistance systems to video coding. The most accurate methods for computing the apparent motion (optic flow field) in image sequences are based on variational models. Finite difference discretisations of their corresponding Euler-Lagrange equations lead to very large linear or nonlinear systems of equations. In order to apply variational optic flow models to many real-world problems, these systems must be solved in a highly efficient way on standard PCs. In this talk we will show how multigrid methods can be adapted such that they become suitable to address this problem. A real-time demo on a laptop demonstrates the practicability of these concepts.

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## References

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