Minimizing TGV-based Variational Models with Non-Convex Data Terms

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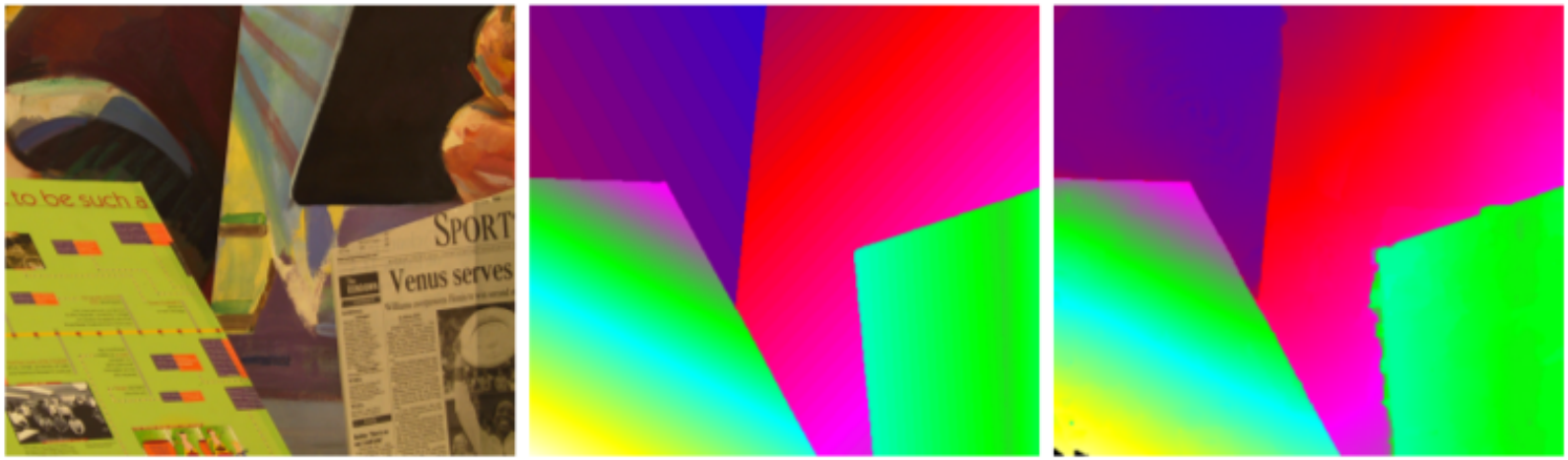

(a) *Venus* (b) Groundtruth (c) Proposed

- Approximate minimization of variational models with Total Generalized Variation regularization (TGV) and non-convex data terms
- Motivation:
  - TGV is arguably a better prior than TV (piecewise affine solutions)
  - TGV is restricted to convex data terms
  - Convex approximations to the non-convex problem (coarse-to-fine warping: loss of details)
- Decomposition of the functional into two subproblems which can be solved globally
- One is convex, the other by lifting the functional to a higher dimensional space, where it is convex
- Significant improvement compared to coarse-to-fine warping on stereo
- Evaluated on KITTI stereo and Middlebury high-resolution benchmarks