Supplementary Materials:
Spectral Total-Variation Local Scale Signatures for Image Manipulation and Fusion

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We give a comprehensive visual comparison for our fusion application. We compare multiple state-of-the-art methods, over multiple image datasets.

First, we compare the two variants of our method to seven state-of-the-art methods for nine thermal-grayscale image pairs (Figs. 1, 2). Second, we compare our feature injection method to seven state-of-the-art methods for four medical image pairs (Fig. 3). Third, we compare our temperature gradient coloring method to three state-of-the-art methods for two thermal-RGB image pairs (Fig. 4).

Our saliency extraction and fusion method presents improved visual results. It can extract fine salient details, or extract salient features even from challenging, nearly piecewise constant images.

References

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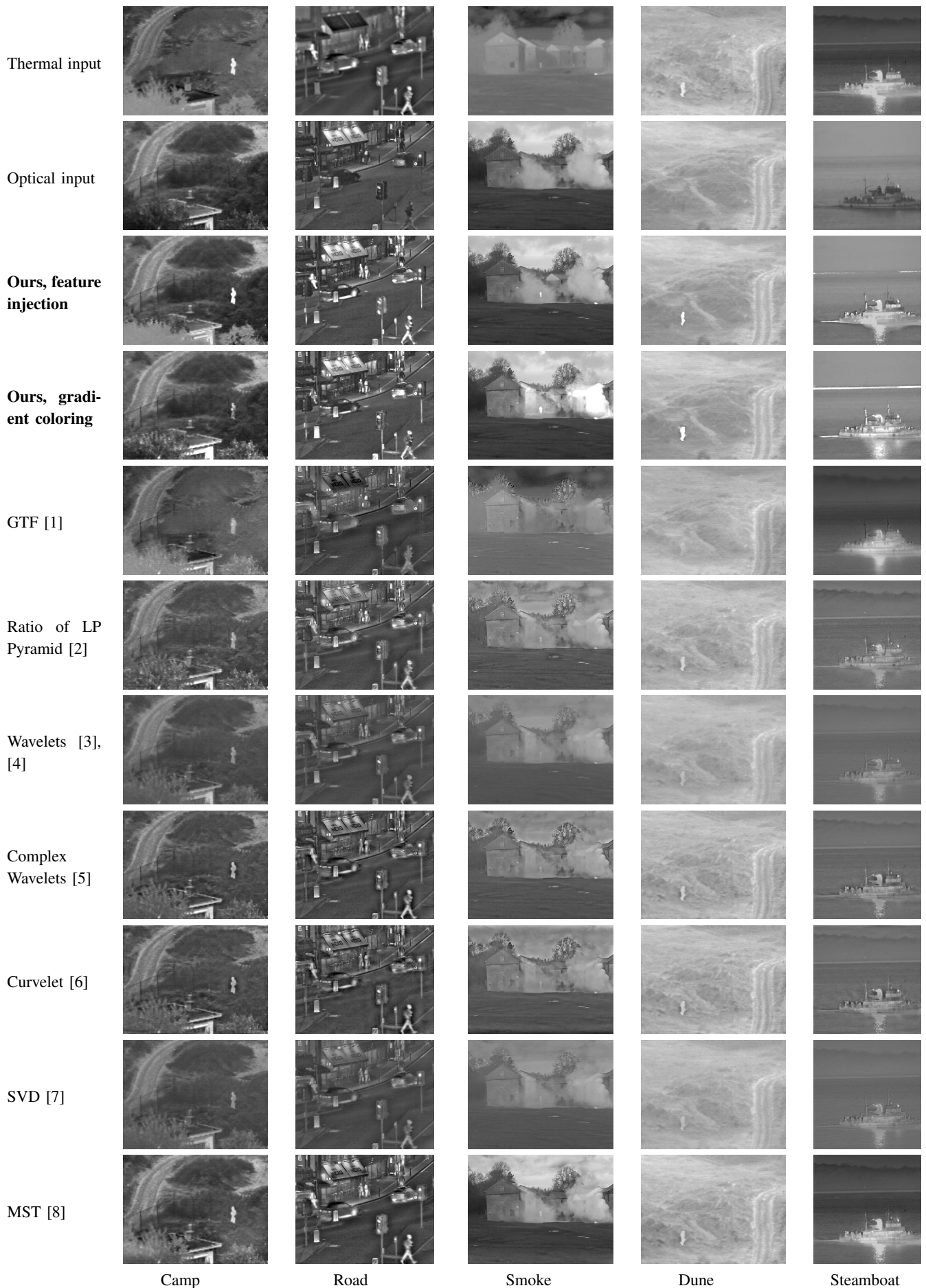
Fig. 1: Comprehensive visual evaluation and comparison between two variants of our fusion method to seven state-of-the-art methods for five thermal-grayscale image pairs. Our results are superior in all cases.
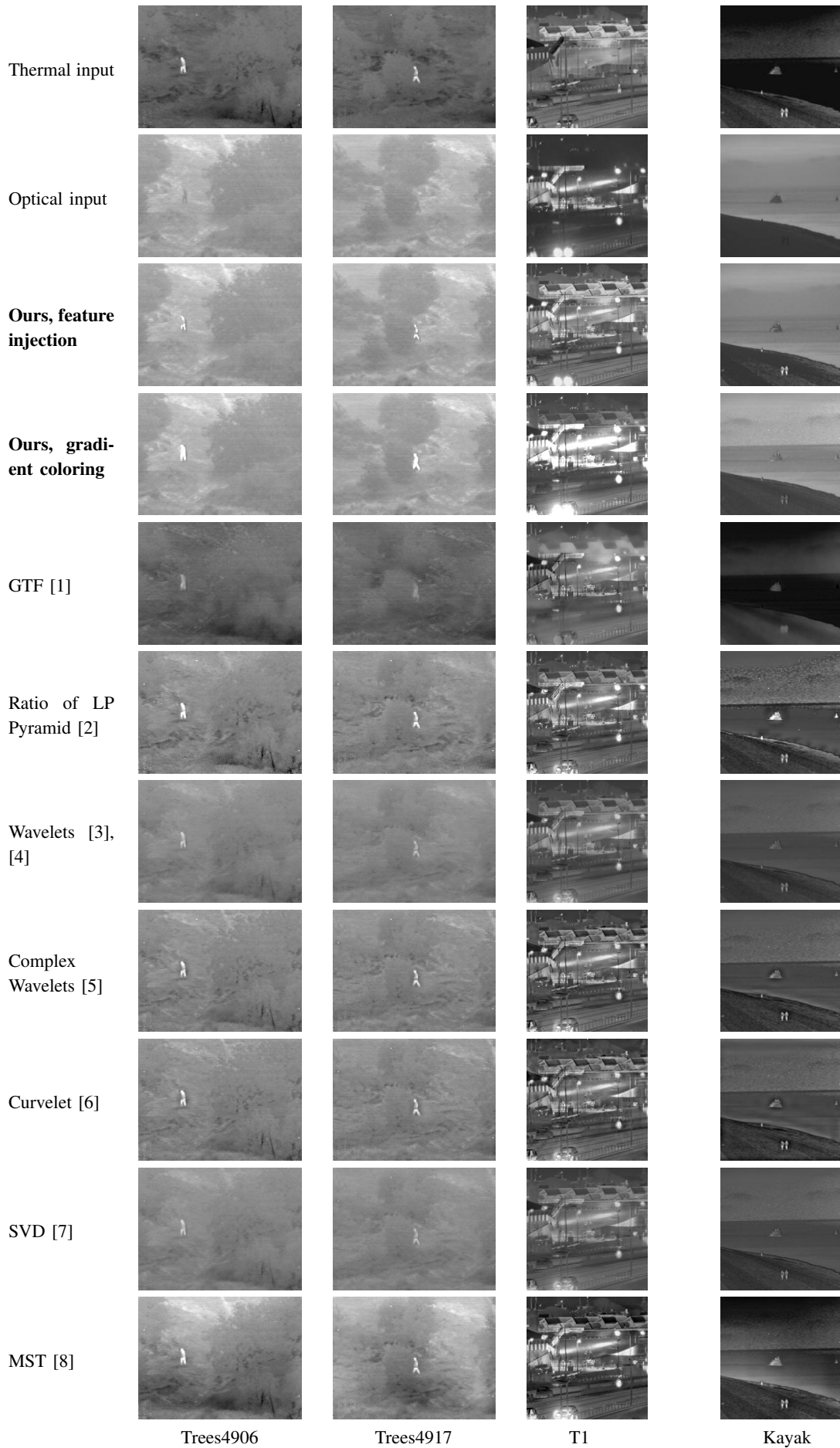
Fig. 2: Comprehensive visual evaluation and comparison between two variants of our fusion method to seven state-of-the-art methods for four thermal-grayscale image pairs. Our results are superior in all cases.
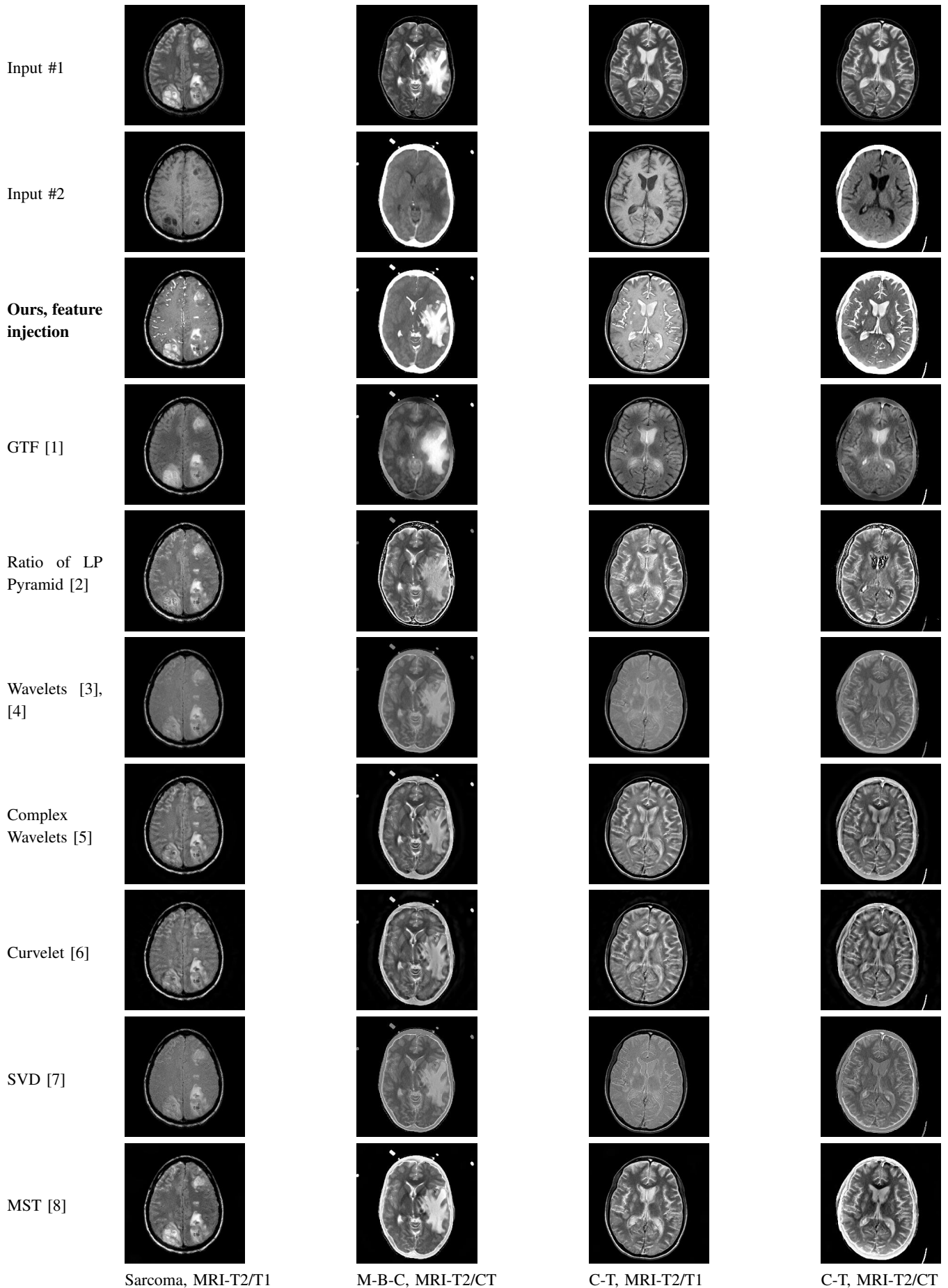
Fig. 3: Comprehensive visual evaluation and comparison between our feature injection method to seven state-of-the-art methods for four medical image pairs (M-B-C = Metastatic Bronchogenic Carcinoma; C-T = Cerebral Toxoplasmosis). Our results are superior in all cases.

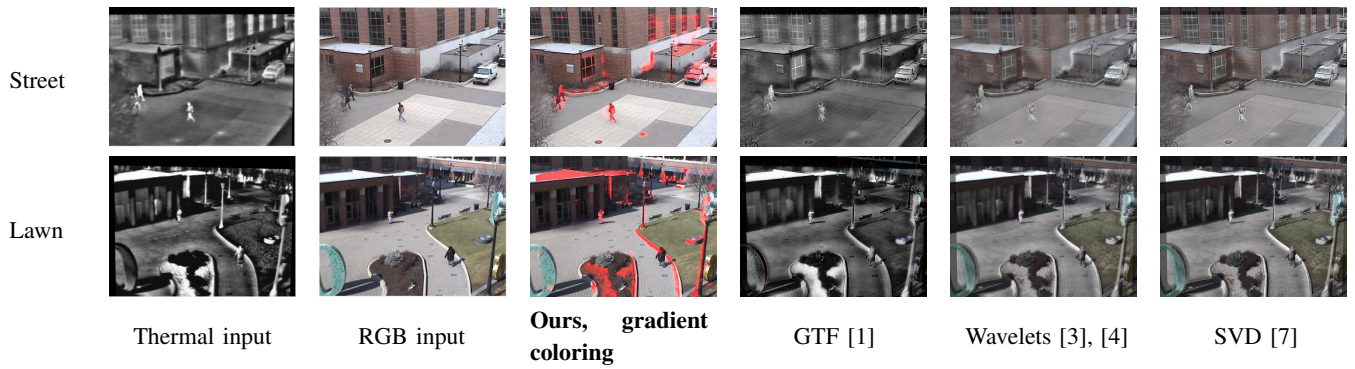| Street | | | | | |
| Lawn | | | | | |
| Thermal input | RGB input | **Ours, gradient coloring** | GTF [1] | Wavelets [3], [4] | SVD [7] |

Fig. 4: Visual evaluation and comparison between our temperature gradient coloring method to three state-of-the-art fusion methods for two thermal-RGB image pairs. Our results are superior in all cases.