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Material Based Salient Object Detection from Hyperspectral Images

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Highlights

- To the best of our knowledge, this is the first time that salient objects are detected based on extracting explicit material property embedded in the spectral responses via retrieval of endmembers and estimating their abundance.
- The novelty also comes from adopting hyperspectral unmixing model as a preprocessing step for salient object detection. This allows the spatial distribution of endmembers be estimated, so the method is capable of dealing with mixed spectral responses in low spatial resolution hyperspectral images.
- Different from existing hyperspectral salient object detection methods, we developed a novel method to fuse both local and global features for hyperspectral salient object detection.
- We built a hyperspectral image dataset for salient detection, which contains mixed objects with similar color but different materials.

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