Performing unmixing after demosaicing SSI images is not a good strategy. Instead, unmixing from the SSI data is far better!

**Joint Unmixing and Demosaicing Methods for Snapshot Spectral Images**

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**Assumptions required for the proposed method**

- **Assumption 1 (Pure Patch Assumption)**
  For each endmember, there exists at least one sensor “patch” where only this endmember is present.

- **Assumption 2**
  In the patches where several endmembers are present, their abundances significantly vary over each patch.

- **Assumption 1 and 2 are similar to the assumptions made in Sparse Component Analysis (SCA).**

**Proposed Low-rank Completion-Based Method**

- **Assumptions recently relaxed [4]**

**Results**

- **PPID + Unmixing**
- **Naive WNMF**
- **ItSD + Unmixing**
- **BTES + Unmixing**
- **GRMR + Unmixing**

**Conclusion and Future Work**

- **The proposed method provides a slightly better demosaicing performance than state-of-the-art methods and a much higher unmixing enhancement.**
- **We aim to investigate the use of our proposed methods on real SSI data.**
- **We also aim to extend them to the case when endmember spectral variability is met in the acquisition process.**

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**References**

