



Vera C. Rubin Observatory  
Data Management

# Practical, nearly-proper image subtraction, yet again

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**DMTN-196**

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## Abstract

The “proper image subtraction” of Zackay et al. (2016) has theoretical advantages and practical disadvantages compared to Alard & Lupton (1998). This technote proposes a hybrid; it is not the first such attempt (see DMTN-021 and especially DMTN-179 for very closely related ideas), but it seems to be one not yet considered.

## Change Record

Version	Date	Description	Owner name
1	YYYY-MM-DD	Unreleased.	Jim Bosch

*Document source location:* <https://github.com/lsst-dm/dmtn-196>

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## A References

Alard, C., Lupton, R.H., 1998, *ApJ*, 503, 325 (arXiv:astro-ph/9712287), doi:10.1086/305984, ADS Link

**[DMTN-179]**, Kovács, G., 2021, *The ZOGY image differencing matching kernel and PSF solutions and their practical implementation issues*, DMTN-179, URL <https://dmtn-179.lsst.io/>, Vera C. Rubin Observatory Data Management Technical Note

**[DMTN-021]**, Reiss, D.J., Lupton, R.H., 2016, *Implementation of Image Difference Decorrelation*, DMTN-021, URL <https://dmtn-021.lsst.io/>, Vera C. Rubin Observatory Data Management Technical Note

Zackay, B., Ofek, E.O., Gal-Yam, A., 2016, *ApJ*, 830, 27 (arXiv:1601.02655), doi:10.3847/0004-637X/830/1/27, ADS Link

## B Acronyms