# One-day outdoor photometric stereo via skylight estimation

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CVPR 2015

This supplementary material shows that our method is more robust to the rank condition of the light direction matrix of a day

(Surface normals are plotted in the same color map)

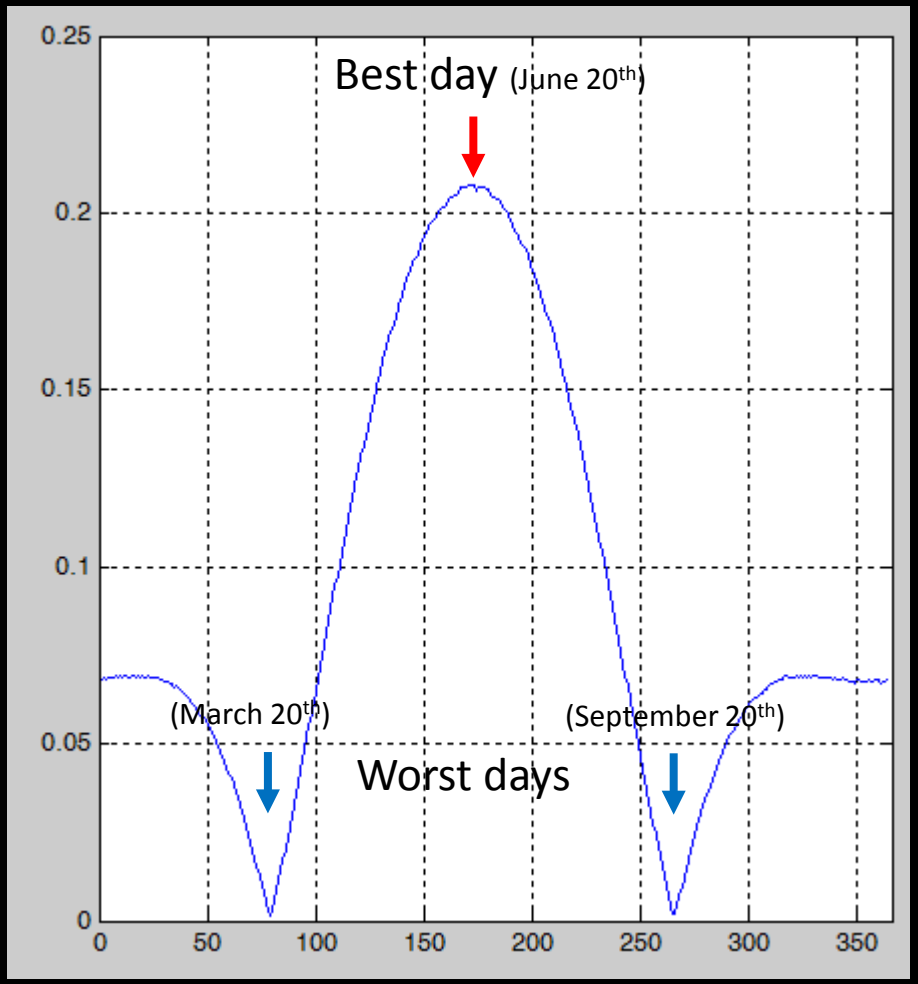
# Surface normal and albedo estimation using images of different days

*Arizona* dataset

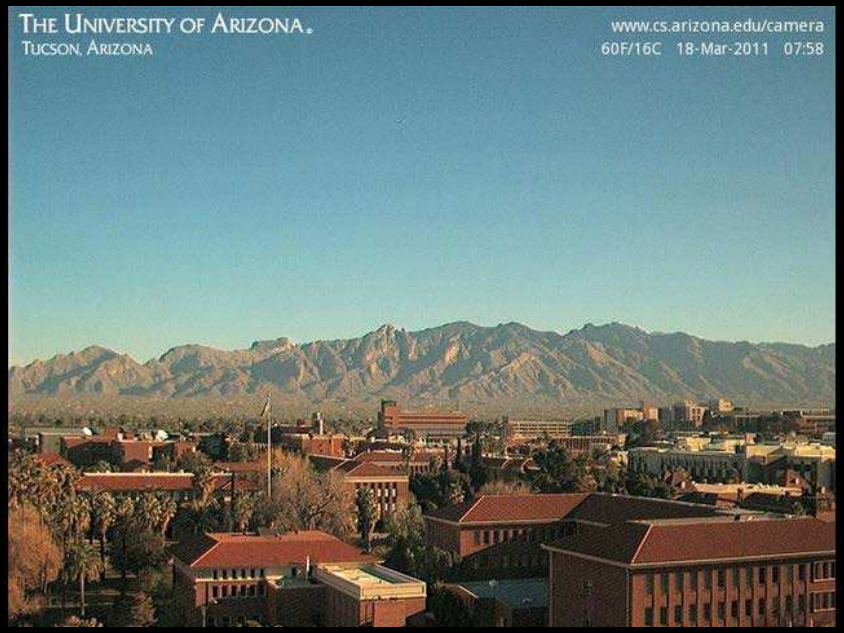
Latitude = 32.229918583
Longitude = -110.955159216

Satellite image from Google map

Inverse condition number (ratio of minimum to maximum eigenvalues) of the light direction matrix per day

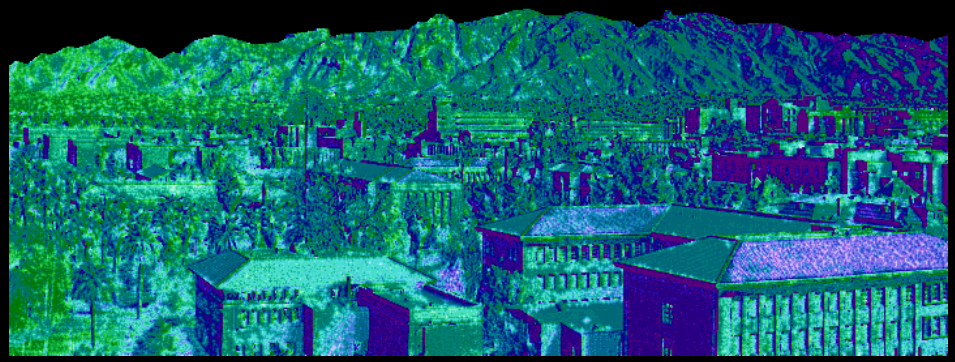


20 images of March 18th 2011 (Inverse condition number = 0.006)

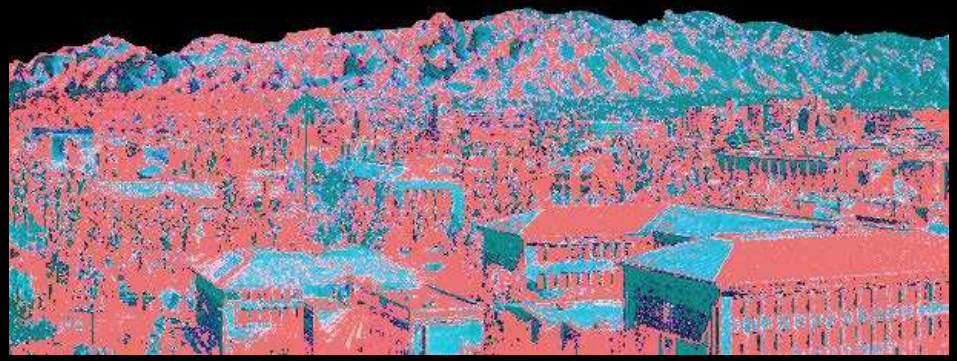



Surface normal estimation

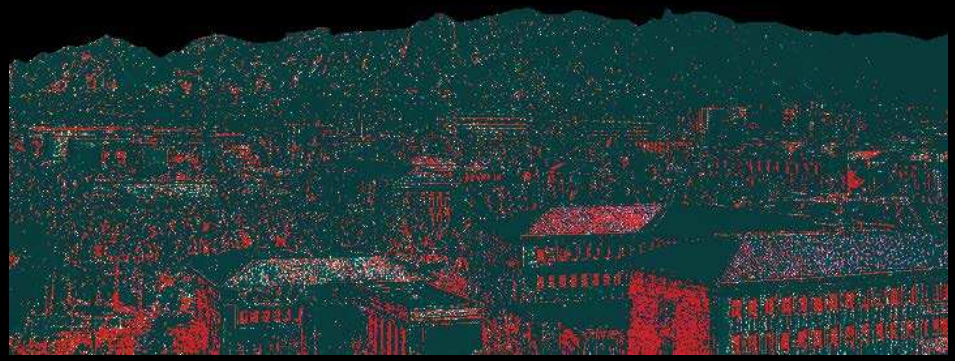
Proposed



[1] Abrams et al. (ECCV 2012)



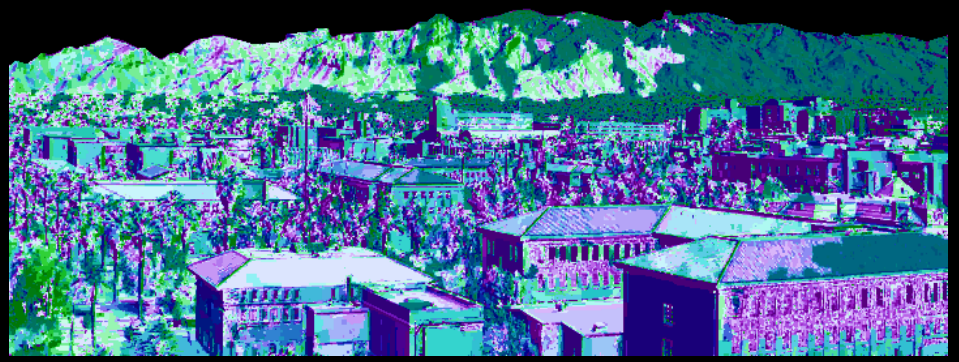
[2] Abrams et al. (CVPR 2013)



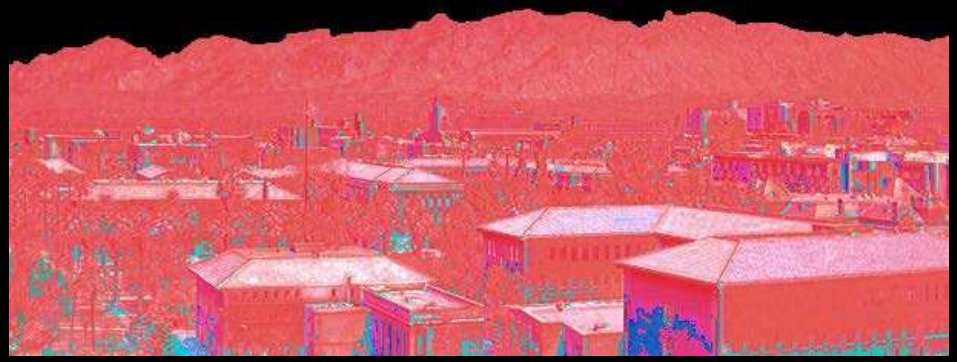
22 images of July 1st 2011 (Inverse condition number = 0.199)

Surface normal estimation

Proposed



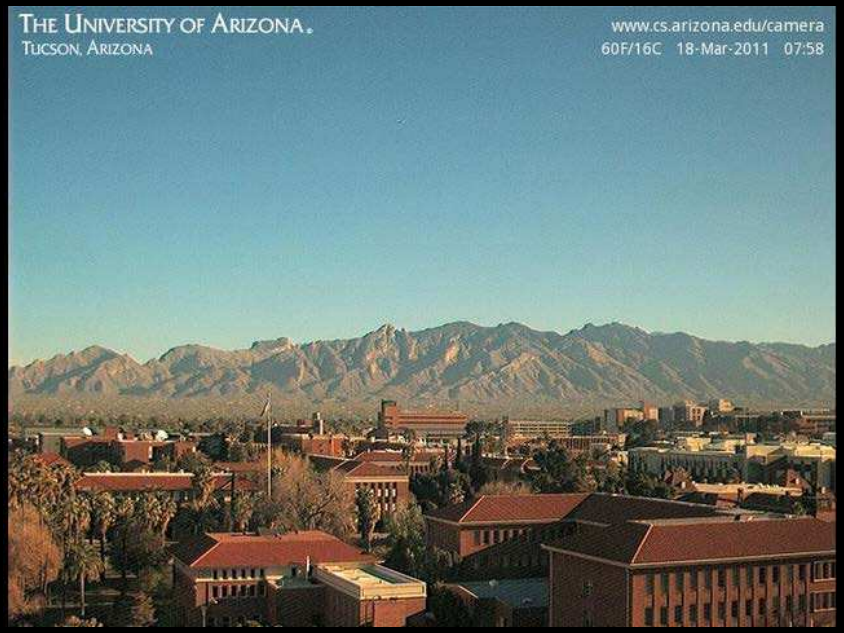
[1] Abrams et al. (ECCV 2012)



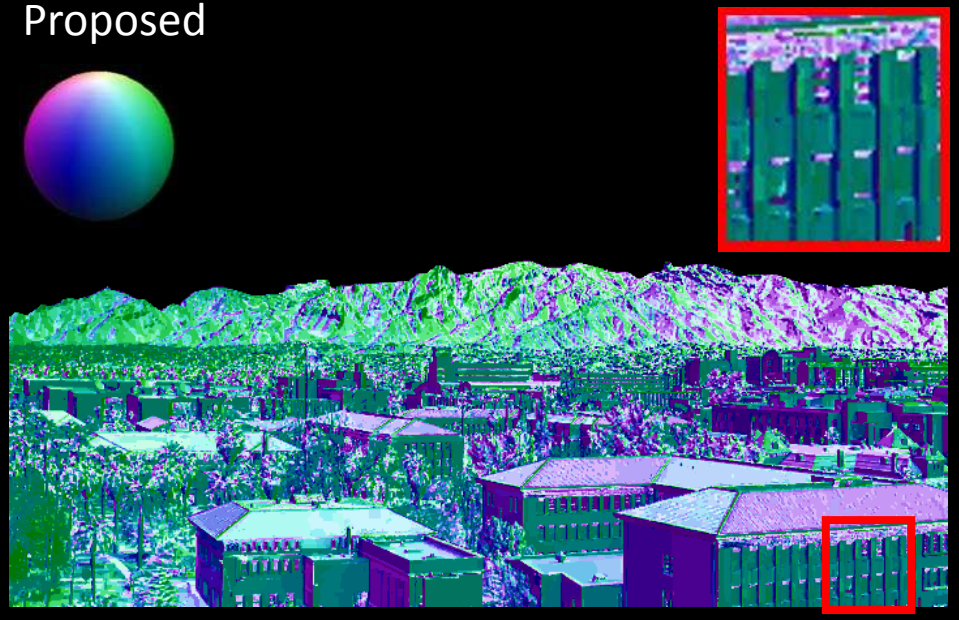
[2] Abrams et al. (CVPR 2013)

42 images of both days (Inverse condition number = 0.292)

Surface normal estimation




Proposed

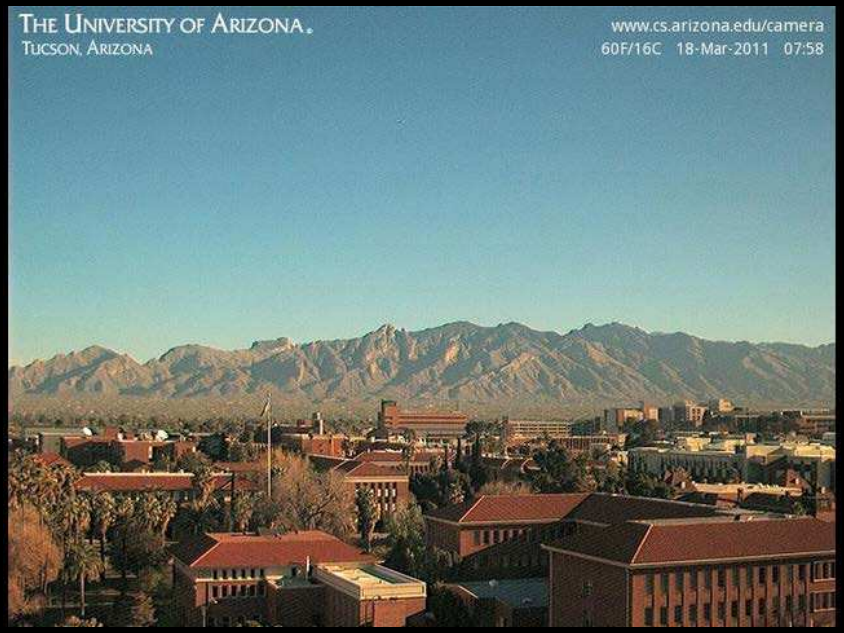


[1] Abrams et al. (ECCV 2012)

[2] Abrams et al. (CVPR 2013)

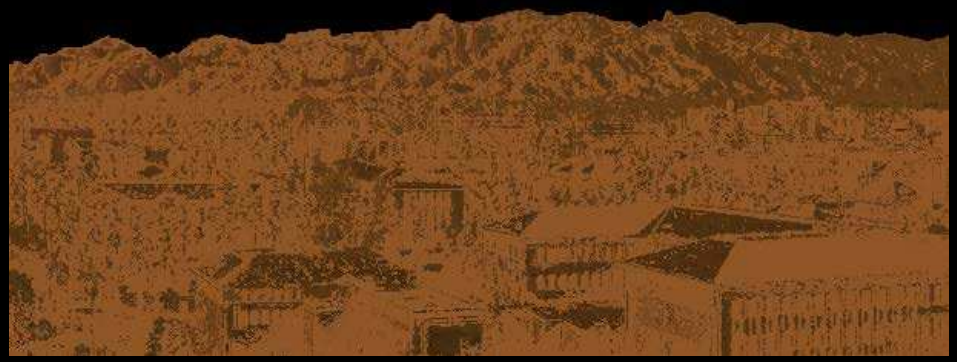
20 images of March 18th 2011 (Inverse condition number = 0.006)

Albedo estimation




Proposed

[1] Abrams et al. (ECCV 2012)



[2] Abrams et al. (CVPR 2013)

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Albedo estimation

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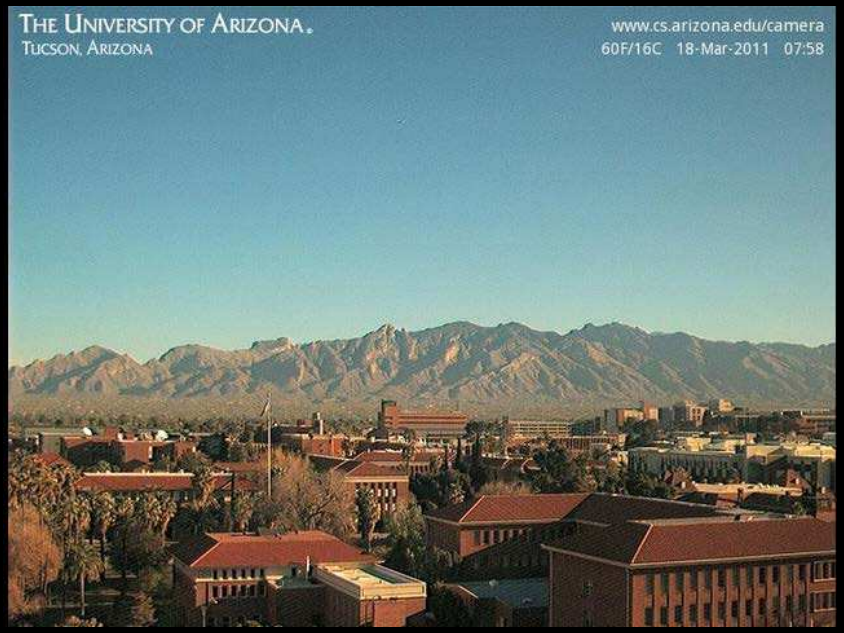
Albedo estimation




Proposed

[1] Abrams et al. (ECCV 2012)

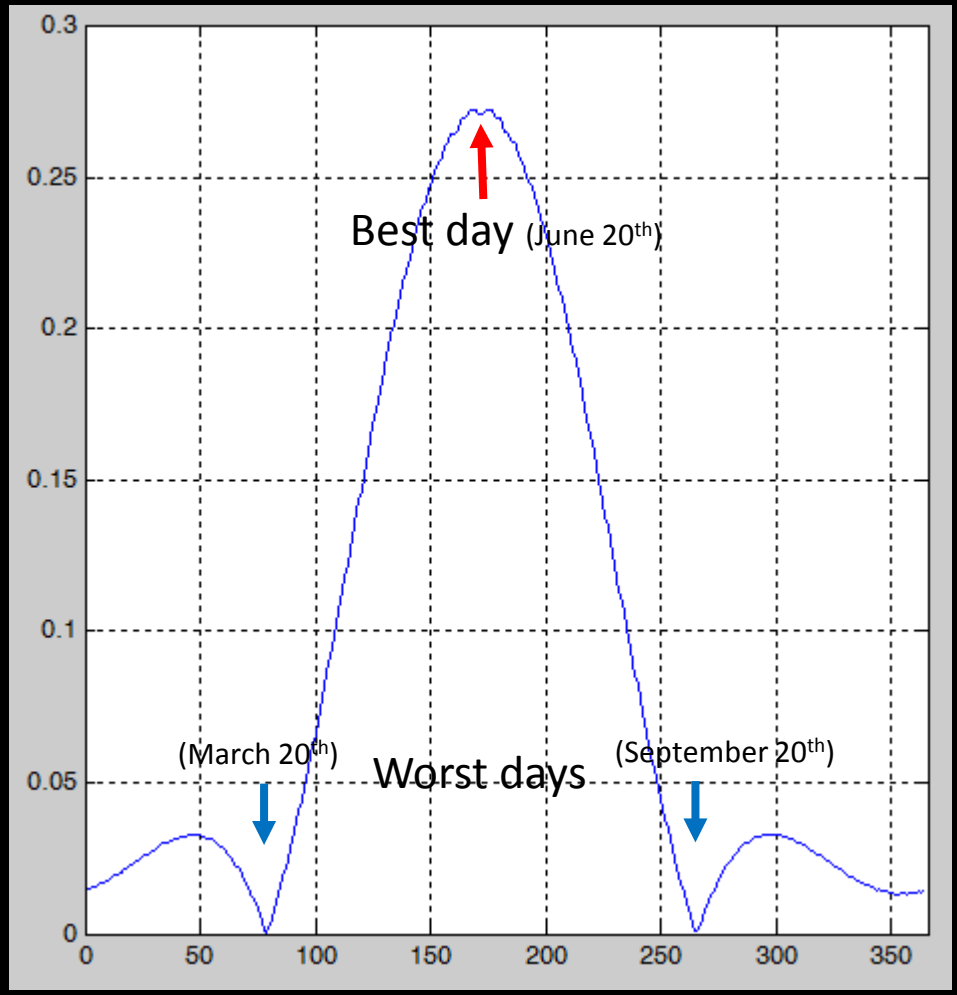
[2] Abrams et al. (CVPR 2013)

*Düsseldorf* dataset

Latitude = 51.1982158268
Longitude = 6.69254670304

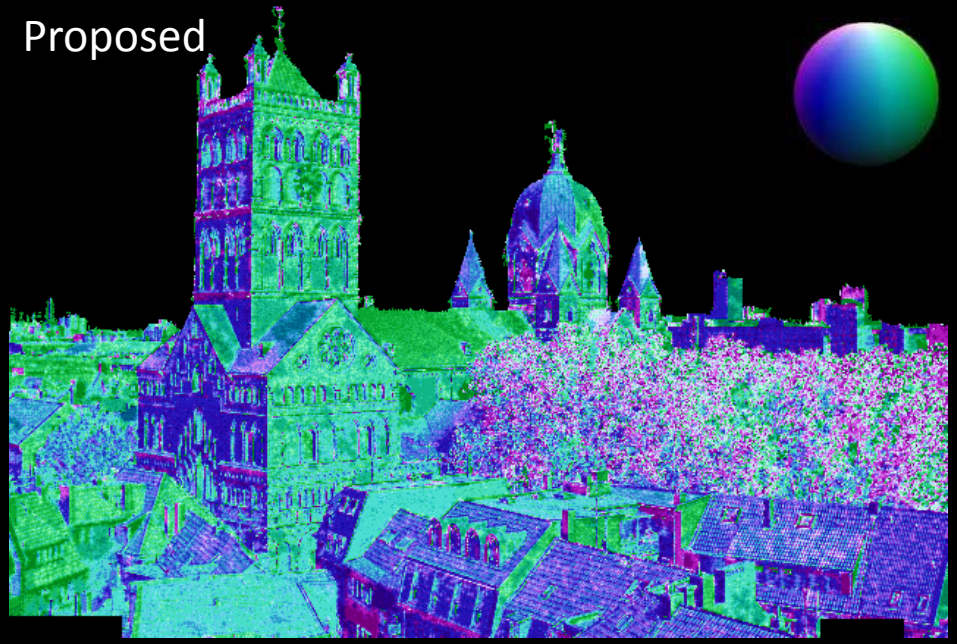
Satellite image from Google map

Inverse condition number (ratio of minimum to maximum eigenvalues) of the light direction matrix per day

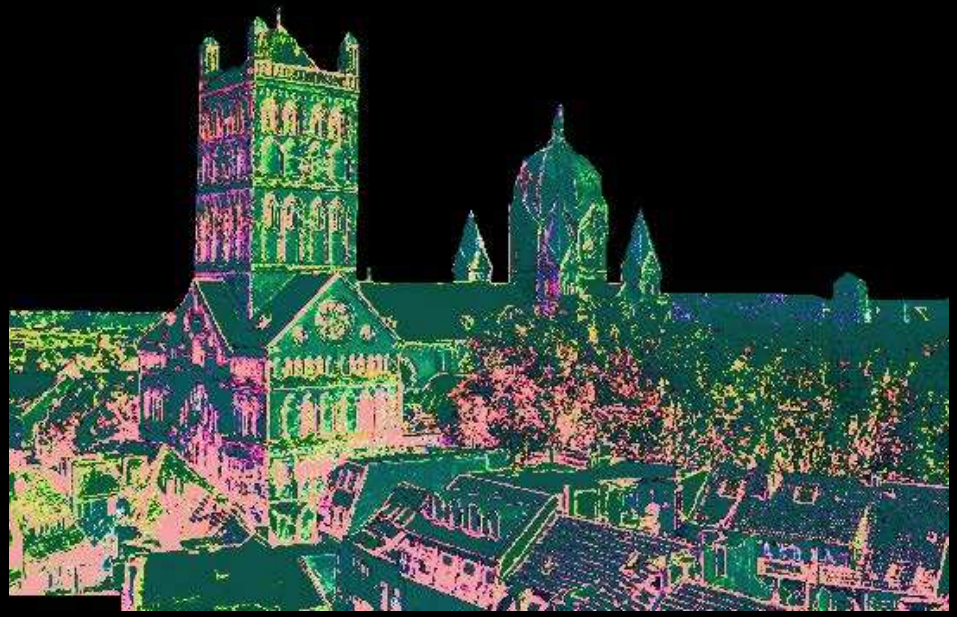


20 images of September 28th 2011 (Inverse condition number = 0.013) Surface normal estimation

Proposed



[1] Abrams et al. (ECCV 2012)

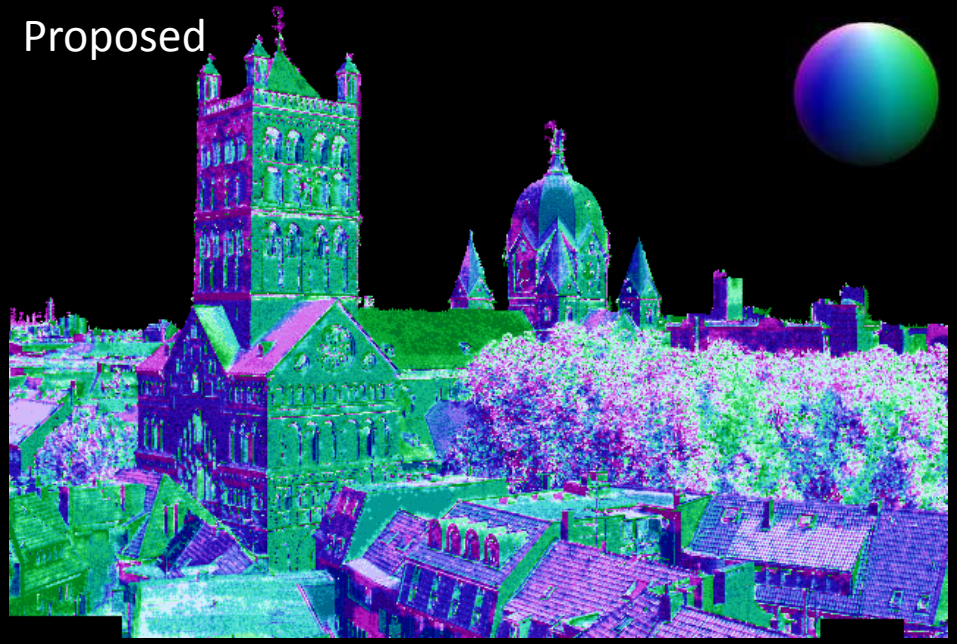


[2] Abrams et al. (CVPR 2013)

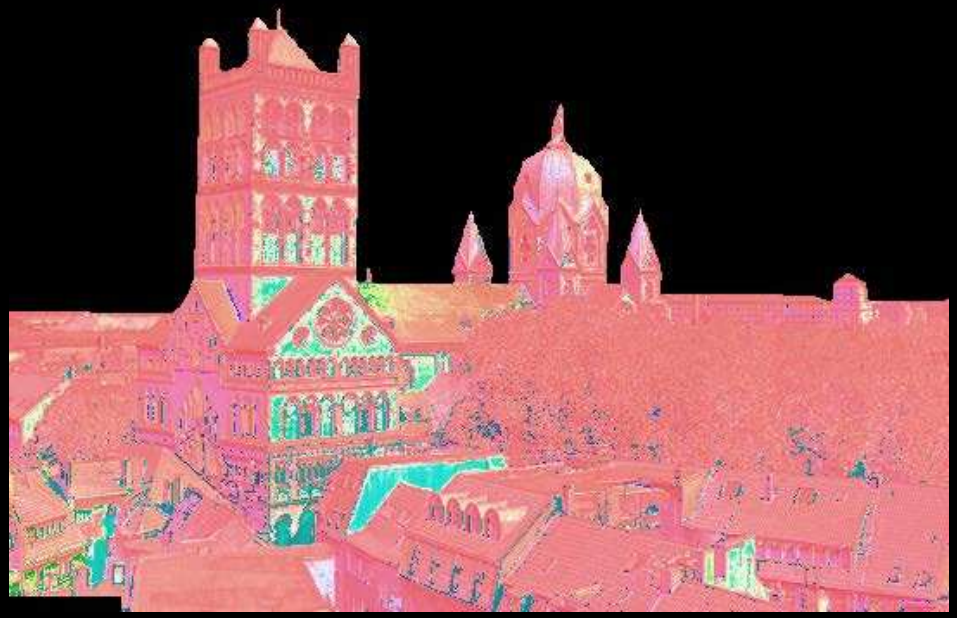
25 images of June 27th 2011 (Inverse condition number = 0.223)

Surface normal estimation

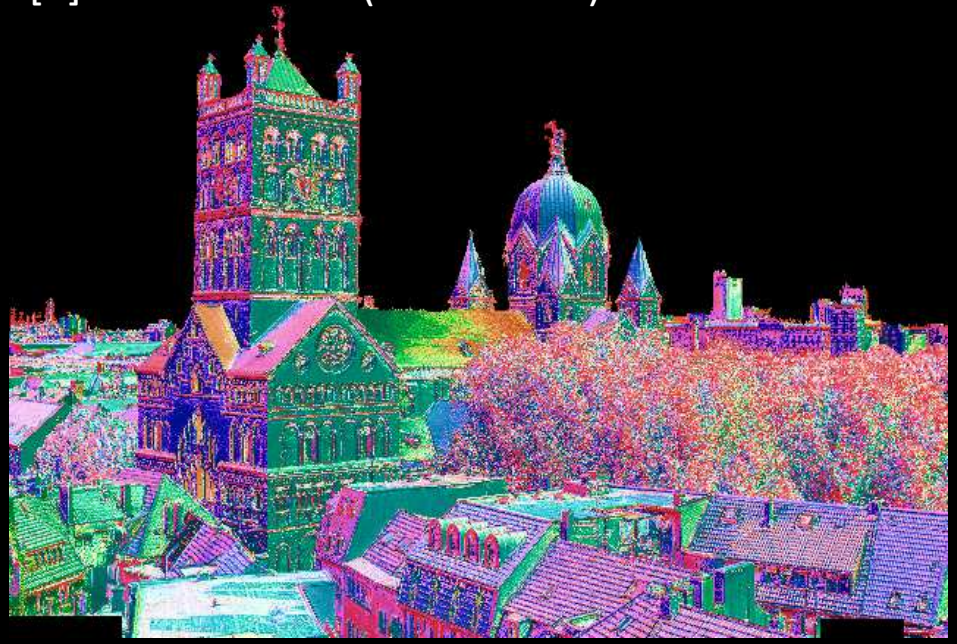
Proposed



[1] Abrams et al. (ECCV 2012)



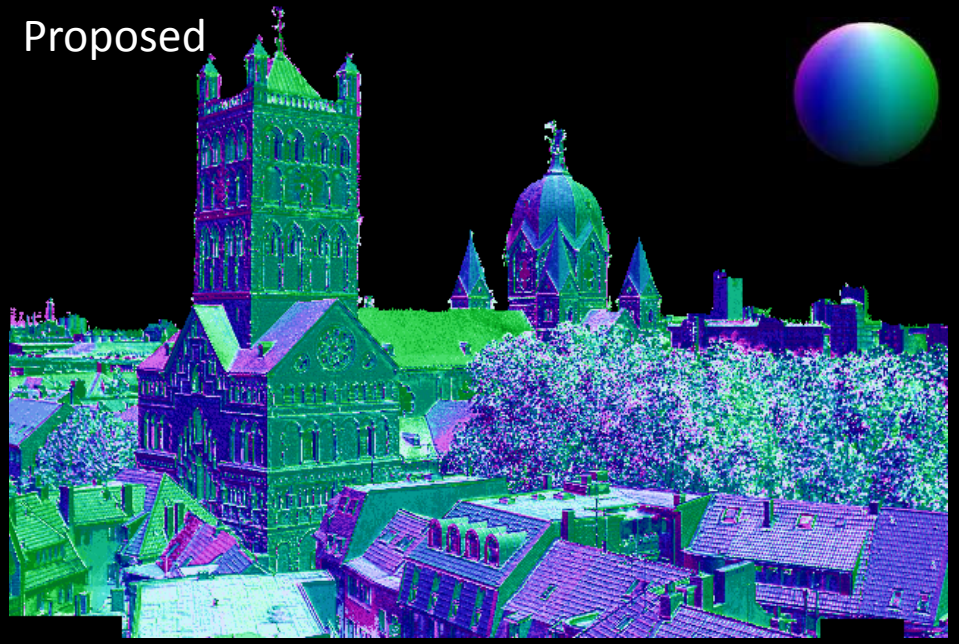
[2] Abrams et al. (CVPR 2013)



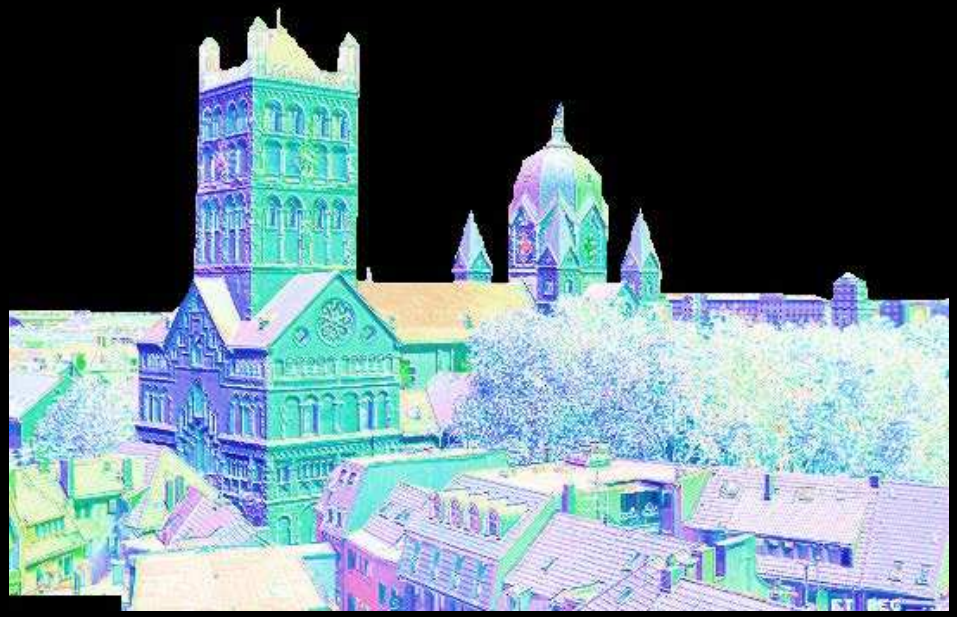
45 images of both days (Inverse condition number = 0.335)

Surface normal estimation

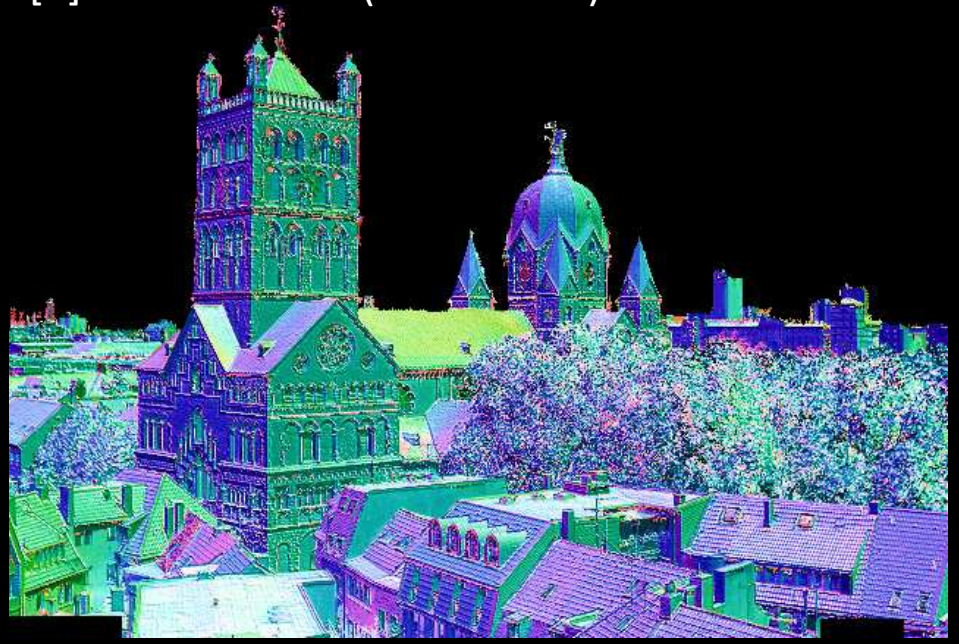
Proposed



[1] Abrams et al. (ECCV 2012)



[2] Abrams et al. (CVPR 2013)

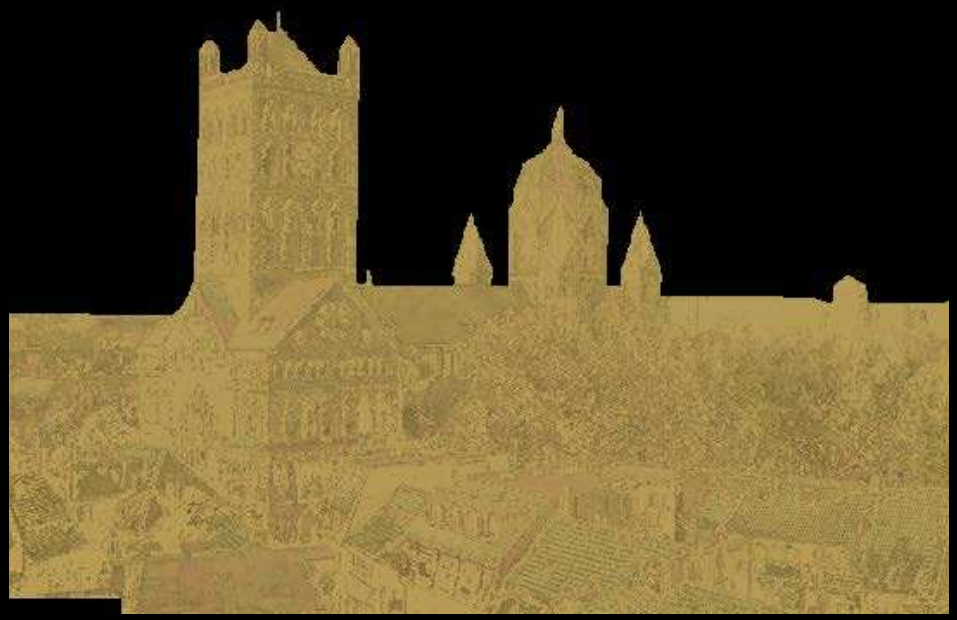


20 images of September 28th 2011 (Inverse condition number = 0.013)

Albedo estimation

Proposed

[1] Abrams et al. (ECCV 2012)



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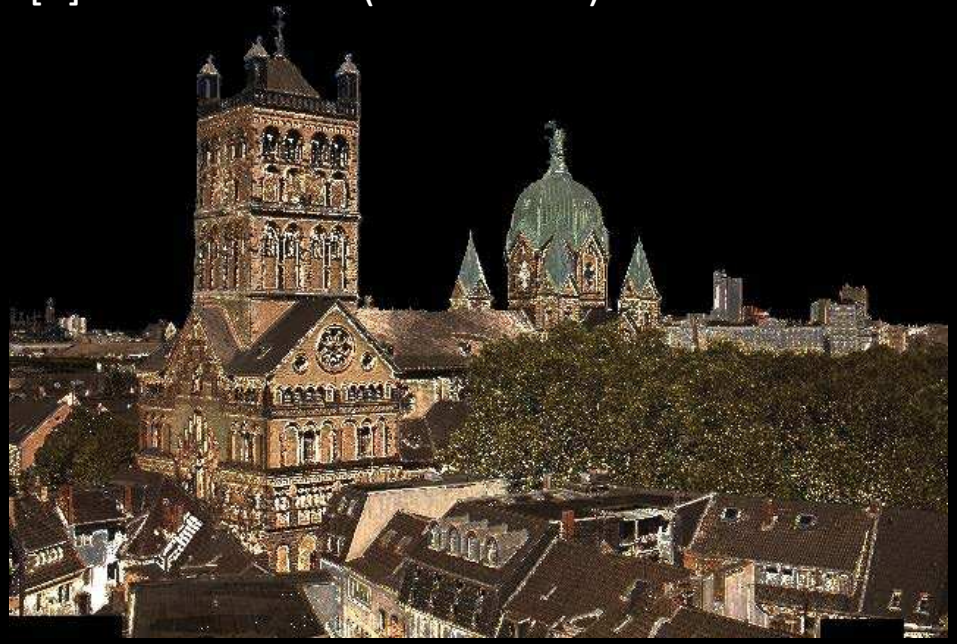

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