Tomographische Rekonstruktion

Fabian Fäßler – 12. November 2012

Das Ziel

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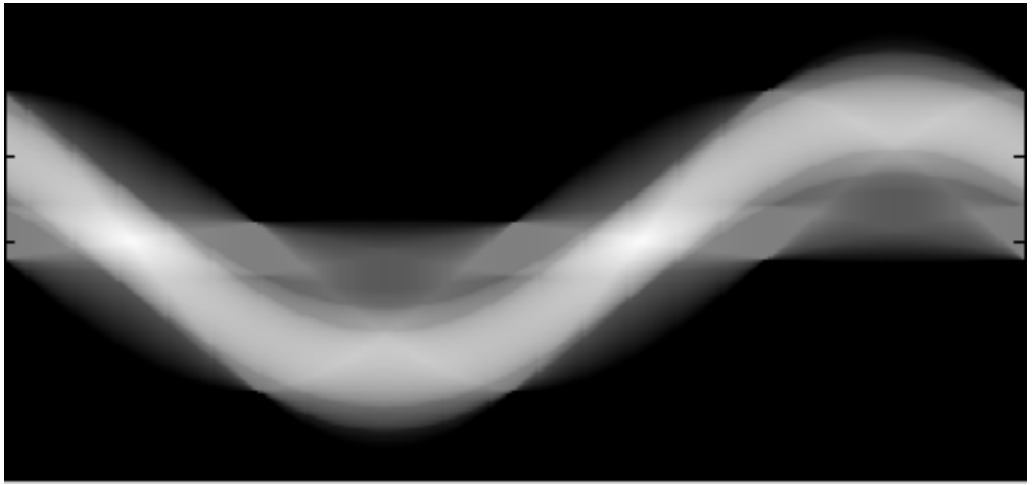

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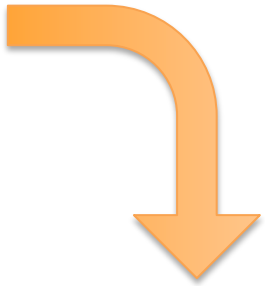

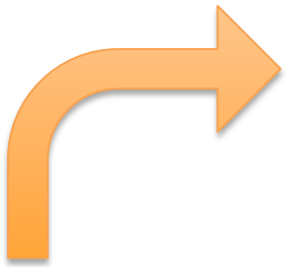

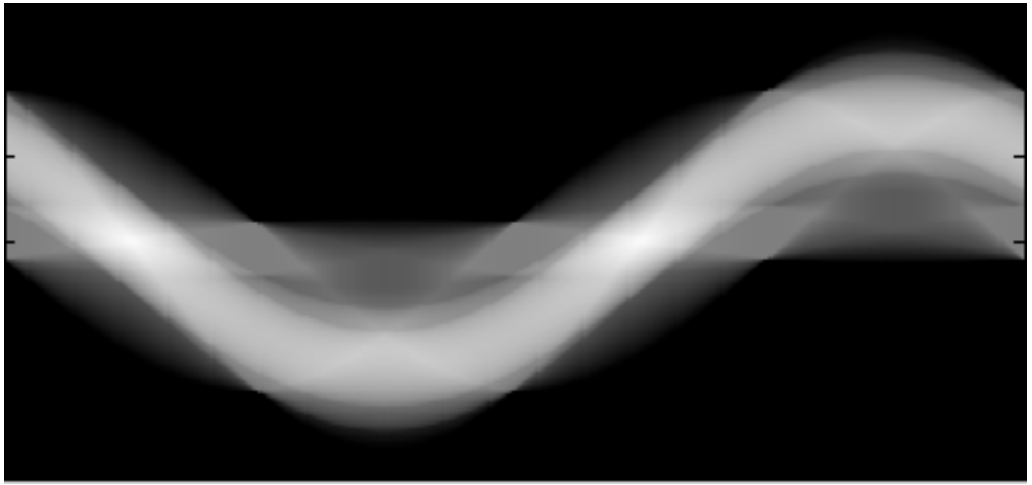

Lösung: Parallelstrahlen

I = iradon(R, theta) - *reconstructs the image I from projection data in the two-dimensional array R. The columns of R are parallel beam projection data.*

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```
[b,c] = radon(original_img,0:360);
reconstructed_img = iradon(b,0:360);
image(reconstructed_img);
```

Lösung: Fächerstrahlen

I = ifanbeam(F,D) **-** *reconstructs the image I from projection data in the two-dimensional array F. Each column of F contains fan-beam projection data at one rotation angle.*

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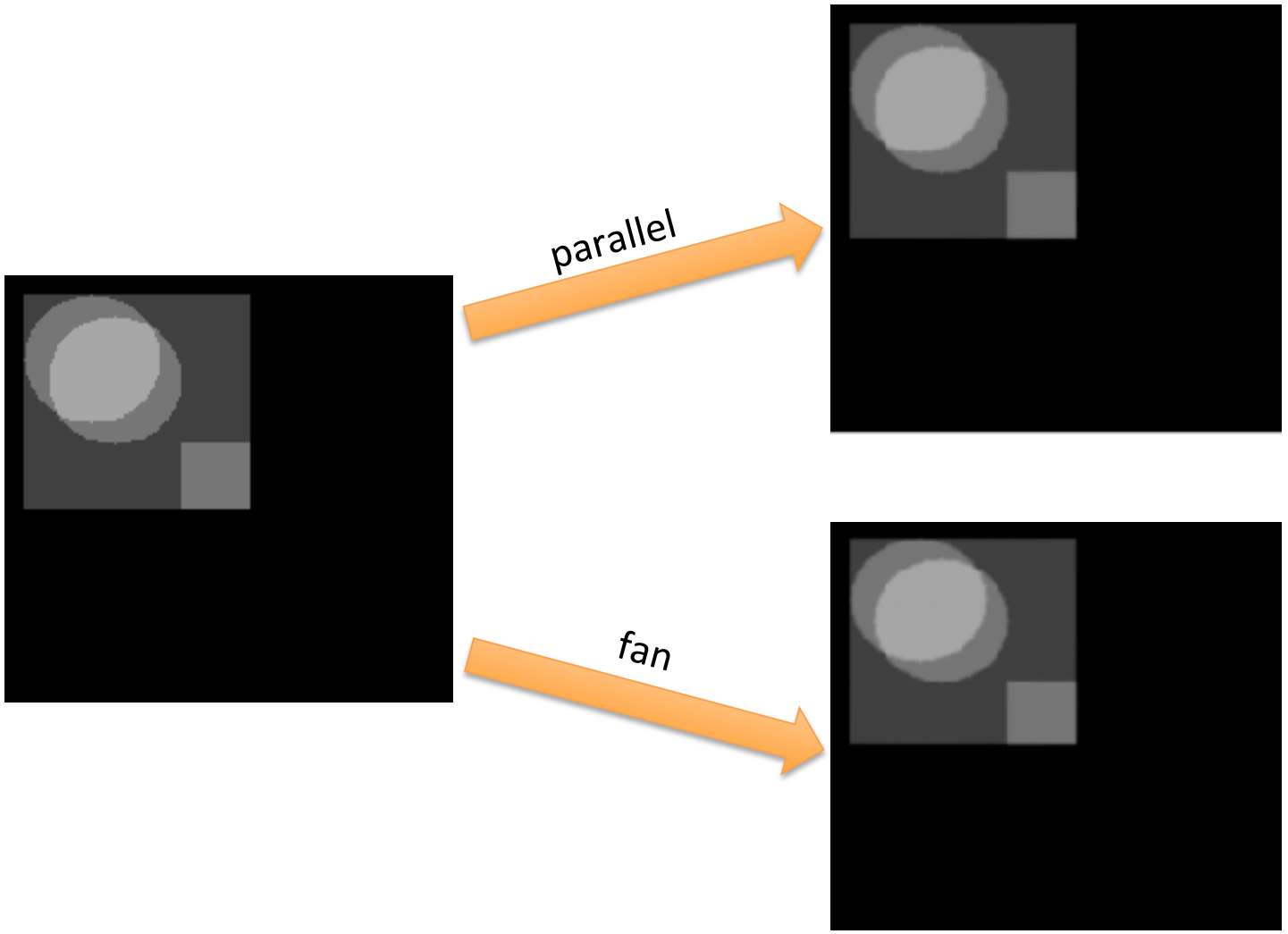
```
[b,pos,angles] = fanbeam(original_img,150, ...
                                    'FanSensorSpacing',0.25);
reconstructed_img = ifanbeam(b,150, ...
                                    'FanSensorSpacing',0.25);
image(reconstructed_img);
```

Vergleich



Demo...

WARNING: sliders incoming!

Code

- https://github.com/Samuirai/matlab

Referenz

- http://www.mathworks.de/de/help/images/examples/reconstructing-an-image-from-projection-data.htm