
Subject: Re: Radon forward projection problem

Posted by [Vontobel Peter](#) on Wed, 23 Apr 2008 10:42:10 GMT

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On 23 Apr., 12:02, Wox <nom...@hotmail.com> wrote:

> On Wed, 23 Apr 2008 00:42:07 -0700 (PDT), VP <peter.vonto...@psi.ch>

> wrote:

>

>> Hi

>

>> please compare your sinogram with the following:

>

>> estsinogram=radon(tomogram,rho=rho,theta=theta,ntheta=nangle s)

>

>> compare the rho and theta values and read the IDL radon help pages.

>

>> HTH

>

>> Peter

>

> So basically what you're saying is: don't undersample.

>

> However, now there are more zero's in the sinogram. Let me explain

> what I want to do. The algorithm I was talking about (OSEM, although I

> think it's really called MLEM, I'm not sure) goes like this

> (BP=backprojection, FP=forward projection):

>

> =====Pseudo-code=====

> sino1=sinogram with all 1's

> tomo1=BP(sino1)

>

> tomo=tomogram with all 1's

> for i=0,niter-1 do begin

> estsino=FP(tomo)

> tomo = tomo * BP(sino_measured/estsino)/tomo1

> endfor

> =====

>

> You see that "estsino" and "tomo1" can't have zeroed pixels. Off

> course, I tried replacing the zeroed pixels by 1, max(rest),

> min(rest), etc... But this gives some artifacts in the resulting

> tomogram. Any ideas?

Hi

I cannot comment your effort to implement an iterative reconstruction algorithm. Simply comparing the two sinograms, i claim that your estsinogram is not the full sinogram of a square. You first have to

make sure to start with the sinogram of a square !

HTH

Peter
