
Subject: Re: IDL inverse matrix problem??

Posted by chris_torrence@NOSPAM on Fri, 23 Jan 2015 20:06:05 GMT

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On Friday, January 23, 2015 at 12:56:35 PM UTC-7, Amin Farhang wrote:

> Hi,

>

> Let me try an example in IDL and matlab for example:

>

>

> In IDL:

>

> IDL> Am =[[-6.8599934d+16, -8.3590379d+16, -1.8742199d+17, 1.5697952d+17,
1.1607144d+17], \$

> IDL> [-1.2228319d+17, -1.4900449d+17, -3.3409009d+17, 2.7982470d+17, 2.0690379d+17], \$

> IDL> [-1.4972730d+17, -1.8244569d+17, -4.0907020d+17, 3.4262599d+17, 2.5333938d+17], \$

> IDL> [-1.0612015d+17, -1.2930950d+17, -2.8993102d+17, 2.4283828d+17, 1.7955584d+17], \$

> IDL> [-1.1696076d+17, -1.4251900d+17, -3.1954867d+17, 2.6764521d+17, 1.9789821d+17]]

> IDL> Bm = la_invert(Am)

> IDL> Cm = Am ## Bm

> IDL> print, Cm

> 0.99999999 -3.7252903e-09 -1.2107193e-08 -7.4505806e-08 8.9406967e-08

> -1.4901161e-08 1.0000000 -1.2107193e-08 -1.0430813e-07 1.1920929e-07

> -1.4901161e-08 -7.4505806e-09 0.99999997 -1.4901161e-07 8.9406967e-08

> -1.4901161e-08 -7.4505806e-09 -1.4901161e-08 0.99999990 8.9406967e-08

> -1.4901161e-08 -2.6077032e-08 -2.0489097e-08 -1.4901161e-07 1.0000002

>

> As you see the AA-1 is not a complete identity matrix

>

>

> In matlab:

>

> Am = [[-6.8599934e+16 , -8.3590379e+16 , -1.8742199e+17 , 1.5697952e+17 ,
1.1607144e+17]; ...

> [-1.2228319e+17 , -1.4900449e+17 , -3.3409009e+17 , 2.7982470e+17 , 2.0690379e+17]; ...

> [-1.4972730e+17 , -1.8244569e+17 , -4.0907020e+17 , 3.4262599e+17 , 2.5333938e+17]; ...

> [-1.0612015e+17 , -1.2930950e+17 , -2.8993102e+17 , 2.4283828e+17 , 1.7955584e+17]; ...

> [-1.1696076e+17 , -1.4251900e+17 , -3.1954867e+17 , 2.6764521e+17 , 1.9789821e+17]];

>

> Bm = inv(Am);

> Cm = Am * Bm

>

> 1.0000 -0.0000 -0.0000 -0.0000 0.0000

> 0 1.0000 -0.0000 0.0000 -0.0000

> -0.0000 -0.0000 1.0000 0 0

> -0.0000 0.0000 -0.0000 1.0000 0.0000

> -0.0000 0 -0.0000 -0.0000 1.0000

>
> As you see the result is a identity matrix
>
>
> Best,

Hi Amin,

I don't think that last example is actually the identity matrix. I would bet that Matlab is only printing out a few digits, so it just looks like the identity matrix. What happens if you print out all of the digits using a Matlab command like `fprintf('%13.9f\n', Cm)`?

-Chris
