Subject: Re: failed matrix inversion returns input-- interesting
Posted by Bringfried Stecklum on Fri, 14 Jul 2006 07:14:20 GMT
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Ed Hyer wrote:
> Can someone explain this behavior?
> IDL> testm=[[0,0,0,0],[0,1,0,0],[0,0,1,0],[0,0,0,1]]
> IDL> testmi=invert(testm,status)
> IDL> print,status; 0=success, 1=fail, 2=pivot used
> 1
> IDL> print,testmi
> 0.00000 0.00000 0.00000 0.00000
> 0.00000 1.00000 0.00000 0.00000
> 0.00000 0.00000 1.00000 0.00000
> 0.00000 0.00000 0.00000 1.00000
>
> Is there any reason in creation why IDL simply copies the input into
> the output if it cannot do the inversion? That seems, well, malevolent,
> unless I'm missing something.
>
I would not call this behavior malevolent. For a singular matrix the inversion is invalid. So the result is meaningless anyway and it does not matter whether IDL returns a fictious array or the input matrix. When solving linear equations it is always recommended to check the condition number of the matrix using cond and use singular value decomposition in case of an ill-behaved matrix.

regards,

B.St.

File Attachments

1) stecklum.vcf, downloaded 103 times