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Subject: Meaning of outer product

Posted by [Paul Sorenson](#) on Sat, 13 Jul 2002 00:33:56 GMT

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Greetings,

IDL documentation says: "Note - If A and B arguments are vectors, then C = MATRIX\_MULTIPLY(A, B) is a matrix with  $C_{ij} = A_i B_j$ . Mathematically, this is equivalent to the outer product. . . ." But I'm having difficulty reconciling this with my understanding of outer product. . .

$$c.x = a.y*b.z - a.z*b.y$$

$$c.y = a.z*b.x - a.x*b.z$$

$$c.z = a.x*b.y - a.y*b.x$$

... which yields a vector (c) instead of a 2D array. Can anyone shed some light on this?

-Paul Sorenson

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Subject: Re: Meaning of outer product

Posted by [jeyadev](#) on Fri, 19 Jul 2002 20:57:39 GMT

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In article <3d37695a\_2@corp-goliath.newsgroups.com>,

Paul Sorenson <aardvark62@msn.com> wrote:

> Thanks, James and M. Katz. Your responses really helped clear up this issue  
> for me. To summarize: the IDL documentation is correct in referring to  $C_{ij}$   
> =  $A_i B_j$  as the outer product. Other resources that refer to the cross  
> product as the "outer product" are using the term more loosely.

^^^^^^

Incorrectly, would be better :-)

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