
Subject: fastest way to find the first non-zero value in an array

Posted by [smasson](#) on Tue, 08 Apr 2008 08:04:48 GMT

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Hi,

I want to find the first non-zero value of an array. Is there a faster way to do this than with the "where" command: `(where(array ne 0))[0]` "Where" will look for all non-zero values and I only need the first one. It would be great if I could stop "where" in its search process as soon as it found one element...

sebastien

Subject: Re: fastest way to find the first non-zero value in an array

Posted by [Foldy Lajos](#) on Tue, 08 Apr 2008 14:23:04 GMT

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On Tue, 8 Apr 2008, smasson@locean-ipsl.upmc.fr wrote:

> Hi,
>
> I want to find the first non-zero value of an array. Is there a faster
> way to do this than with the "where" command: `(where(array ne 0))[0]`
> "Where" will look for all non-zero values and I only need the first
> one. It would be great if I could stop "where" in its search process
> as soon as it found one element...
>
> sebastien
>

`(where(array))[0]` will be a little bit faster, because it spares a temp array creation and write.

regards,
lajos

Subject: Re: fastest way to find the first non-zero value in an array

Posted by [Rick Towler](#) on Tue, 08 Apr 2008 18:41:10 GMT

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[smasson@](#) wrote:

> I want to find the first non-zero value of an array. Is there a faster
> way to do this than with the "where" command: `(where(array ne 0))[0]`

- > "Where" will look for all non-zero values and I only need the first
- > one. It would be great if I could stop "where" in its search process
- > as soon as it found one element...

I agree. You should submit a feature request so you can pass a keyword specifying FIRST or LAST and optionally the number of first or last elements you want returned. Something like:

```
idx = WHERE(array ne 0, /FIRST)
```

Returns a scalar containing the index of the first non-zero element of array.

```
idx = WHERE(array ne 0, FIRST=10)
```

Returns a 10 element vector containing the first 10 indices where array is not equal to 0.

LAST would function in the same way except it would start from the end of the array and work backwards.

COMPLIMENT, and NCOMPLIMENT would function as they do now but of course COMPLIMENT would return indices for all elements in "array" beyond the point WHERE short-circuited.

-Rick
