
Subject: Interleaving separate arrays..

Posted by [steinhh](#) on Thu, 13 Apr 2000 07:00:00 GMT

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Hmm, this talk about the interleaving of Leon Majewski's data reminded me of a question that Ricardo Fonseca had quite a while ago.. It was about converting an 8-bit image into a 24-bit image plus an alpha channel, interleaving the colors in the first dimension.

Struan Gray suggested using the `[red(image),green(image),blue(image),alphachan]` method, then reform & transpose. (He also pointed out that this was often not necessary, though, since the INTERLEAVE/TRUE keywords can be used in many cases to indicate which dimension is interleaved)

I wrote a reply to this, but as I've recently learned, it never made it outside Goddard Space Flight Center.. Now, here a short summary, sent from my old account in Oslo..:

There are constructs in IDL to concatenate arrays by expanding the first dimension, expanding the second dimension etc.. as well as adding a dimension at the "end" (using more and more `[]` brackets in the array concatenation statements, respectively), but no syntactic construct to interleave pixels in a new dimension *before* the existing ones...

Re-shoveling arrays after building them is not my preferred mode of operation, because of the inherent performance hit. Better to do it right in the first place - but how to avoid loops? Is a DLM the answer? Well, so I thought, until it dawned on me (5 minutes ago) that Ricardo's original problem can be solved like this:

```
s = size(image)
image = reform(image,1,s[1],s[2],/overwrite)
alphachan = replicate(128b,1,s[1],s[2])
alphaimage = [red[image],green[image],blue[image],alphachan]
```

Presto.. Though I shrink in my chair admitting that I actually wrote a DLM to do this (as in `result = interleave(a,b,c,d,e,f,.....)`). It didn't take much time, though, and I did it to test my sanity after keeping away from IDL for too long.. Guess I only came halfway through the test :-)

My only consolation is that nobody else got it...

Stein Vidar
