Subject: IMDISP display procedure update: True Color now faster
Posted by Liam E. Gumley on Wed, 05 Jun 2002 17:02:59 GMT
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Dear Colleagues,

Summary:

A new version of my IMDISP display procedure is available at

http://www.gumley.com/PIP/Free_Software.html

The new version (v 1.47 2002/06/05) is considerably faster than the previous version when displaying large (i.e. megapixel) True Color images.

Details:

This morning I was browsing the RSI Tech Tip "Tips & Tricks for Efficient IDL Programming"

http://www.rsinc.com/services/output.cfm?tip_id=1799

when I realized tip number 10 was directly applicable to IMDISP. The substance of the tip is that for multi-dimensional arrays, the use of "*" indexing on the left side of an assignment statement can slow things down when working with True Color images, e.g.,

```
IDL> true = bytarr(2000, 2000, 3, /nozero)
IDL> data = bytscl(dist(2000))
IDL> t0 = systime(1) & true[*, *, 0] = data & t1 = systime(1)
IDL> print, t1 - t0
      1.8526720
```

This kind of operation is used in IMDISP to store byte-scaled values in the red, green and blue channels of a True Color image. Zero-based indexing is much faster in this instance, e.g.,

```
IDL> t0 = systime(1) & true[0, 0, 0] = data & t1 = systime(1)
IDL> print, t1 - t0
    0.030030966
```

I have modified IMDISP to use zero-based indexing for True Color images, and my own tests show significant speedups, especially for large images (better than a factor of two). I often work with megapixel size True Color images, so I really appreciate the savings.

Cheers,

Liam.
Practical IDL Programming
http://www.gumley.com/