Subject: Re: Postscript Color RGB to CMYK
Posted by R.Bauer on Tue, 01 Jul 2003 12:59:16 GMT
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Esa Riihonen wrote:
> Hi all!
>
> I wonder whether someone might have bumped on this problem before and
> even perhaps have somekind of solution.
>
> As I understand, Postscript files produced by IDL have color coded as
> RGB. However several (propably most) journals require CMYK-code. I have
> a clumsy solution, load the file in CorelDraw and make the changes there
> - this is far from perfect as it among other things usually require many
> trials e.g., going back to IDL for changing the line thicknesses and such.
>
> So has anyone a better solution?
>
> Our IDL environment is 'IDL Version 5.6, Compaq Tru64 (OSF alpha m64)'
> Also Linux and even Windows based solutions would be OK.
>
>
> Cheers,
>
> EsaR
>
> PS. I think provision of CMYK-coded PS would be much needed in the
> future IDL-versions.

I have already done a feature request it got's a high priority.
Please do the same.

best regards

Reimar

--
Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
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a IDL library at ForschungsZentrum Juelich
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro. html
========== =======

Subject: Re: Postscript Color RGB to CMYK
Posted by msienkiewicz on Tue, 01 Jul 2003 18:29:57 GMT
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Esa Riihonen <riihonen@NO.SPAM.utu.fi> wrote in message
news:<3F017E9D.8040302@NO.SPAM.utu.fi>...
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> future IDL-versions.

Someone at my office had asked me the same question about a month ago.
He figured a way to handle this by editing the PS file by hand -
but I later found a Perl script that may be able to do this
automatically. The web page for the script is

http://dionysos.mpch-mainz.mpg.de/~joeckel/pscol/

It will also do PS color to grayscale conversion.

The script needs a standardized PS file for input, created via
Ghostscript 'ps2ps' or 'eps2eps'. It uses a simple algorithm
for the conversion and probably will work ok for simple color

conversions - like the colored line plots my colleague was producing.
For other cases you'd need to load the figure in Photoshop, or CorelDraw
as Esa noted above. I suppose one could modify the script to deal
with IDL PS format directly and take out the 'ps2ps' step...
At least it may be useful until IDL can generate CMYK PS.

Subject: Re: Postscript Color RGB to CMYK
Posted by Esa Riihonen on Thu, 03 Jul 2003 10:53:39 GMT
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On Tue, 01 Jul 2003 15:59:16 +0300, Reimar Bauer wrote:

> Esa Riihonen wrote:

[snip]

>> PS. I think provision of CMYK-coded PS would be much needed in the
>> future IDL-versions.
>
>
> I have already done a feature request it got's a high priority. Please
> do the same.

Will do!

Cheers,

EsaR

Subject: Re: Postscript Color RGB to CMYK
Posted by Esa Riihonen on Thu, 03 Jul 2003 11:04:55 GMT
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On Tue, 01 Jul 2003 21:29:57 +0300, Meta Sienkiewicz wrote:

[snip]

: Someone at my office had asked me the same question about a month ago.
: He figured a way to handle this by editing the PS file by hand - but I
: later found a Perl script that may be able to do this automatically. The
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: the colored line plots my colleague was producing. For other cases you'd
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: suppose one could modify the script to deal with IDL PS format directly
: and take out the 'ps2ps' step... At least it may be useful until IDL can
: generate CMYK PS.

Thanks Meta, I will give it a try.

Meanwhile a collegue found a similar solution by Fred Clare based on an
'ed'-script:

  http://ngwww.ucar.edu/ncarg-talk/all/0414.html

To ease the usage I made a small IDL-procedure around it which seems to
work fine for my current needs. However as I have a very simple color
plots with most six different colors. I'm pretty sure this can't be the
final solution, otherwise it would have been implemented already ages ago.

All the best and thanks again,

EsaR

Subject: Re: Postscript Color RGB to CMYK
Posted by George White on Thu, 03 Jul 2003 11:16:56 GMT
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On Tue, 1 Jul 2003, Esa Riihonen wrote:

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> trials e.g., going back to IDL for changing the line thicknesses and such.
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> So has anyone a better solution?

I find Adobe tools (Illustrator and Photoshop) do a better job of the

RGB->CMYK conversion. I've tried doing conversions using the textbook formulas, but often the colors come out looking "muddy" and don't come out as well in print. I suspect the problem is that many of our images use colors that are outside the printer gamut. The same RGB LUT will produce different images on different CRT's (e.g., PC vs Mac or SGI due to the different gamma values used on these systems). See, e.g., http://www.fcaglp.unlp.edu.ar/~esuarez/gmt/1998/0651.html for more on this issue.

In principle, using a PS interpreter such as ghostscript you can rewrite a PS file to replace RGB colors with CMYK. Jason Olszewski's aimaker script does a number of color manipulations (using awk scripts) after converting the PS file to AI format (so the operators have a consistent form), but doesn't deal with images.

There are other issues in creating pre-press files (color separation, trapping, gamut mapping). The IDL display devices are RGB, and doing CMYK properly seems to require more than just the textbook formula. We often create reports with images processed using multiple tools (IDL, GMT, matlab). All of these support RGB LUT's so you can preserve consistent color scales across the packages. These LUT's are tuned for CRT's, and have become the "norm" for viewing certain data sets.

RGB to CMYK conversion seems to be a "hard" problem. Does it make sense to try to solve this in IDL or is it better to look for a more universal tool that will give consistent results for PS from multiple sources?

--
George White <aa056@chebucto.ns.ca>
Head of St. Margarets Bay, Nova Scotia