Subject: Re: Warping with intensity conservation or drizzle algorithm
Posted by JD Smith on Fri, 20 Jun 2008 21:12:55 GMT
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> (2) JD Smith's CUBISM software (http://turtle.as.arizona.edu/jdsmith/
> cubism.php ) uses an algorithm similar to drizzling to resample 1-d
> spectra. The workhorse procedure for this algorithm is called
> polyclip.pro and it performs Sutherland-Hodgman polygon clipping.
> He also provide a C version which is 50 (!) times faster. (So
> let's encourage ITTVIS to include Sutherland-Hodgman clipping or
> something similar as an intrinisc IDL function.)

Polyclip.pro and its associated polyfillaa.pro and polyclip.c could readily be re-worked for a drizzle-like algorithm (by adding its somewhat poorly justified "drop size" reduction). It is coded in C, but IDL auto-compiles it, which seems to work well on most platforms (though it requires you to have a C compiler). It also has a much slower version written in IDL native code to fall back on if it can't compile it.

I've pinged RSI/ITT about integrating a general flexible clipper, like GPC, many times, but I don't think it's reached critical threshold. Add your voice to the chorus. Polyclip is very simplistic and special-purpose, and for real speed, you need to stuff a huge number of polygons down its throat during a single call to CALL_EXTERNAL. For added perversity, it uses multiple REVERSE_INDICES style inputs and returns for the resulting clipped polygon indices. That said, it does fly through millions of polygons in a very short amount of time.

JD