
Subject: Re: stereo triangulation in IDL

Posted by [derkleinepilz](#) on Tue, 18 Sep 2012 06:53:17 GMT

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Am Montag, 17. September 2012 23:52:03 UTC+2 schrieb Klemen:

> On Thursday I will submit the discussion paper for ACP, then I can post the link here. But a shorter version is: everything is based on parallax. :)

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> I have both datasets in the same projection plane. I use moving window analysis that correlates both datasets. The pixel pair with the highest correlation is the one I am interested. Shifts are then just the differences in the array indices. For each pixel in the array I know the lon, lat, I know the satellite position, so I can generate two lines. From the intersection point between these lines I can compute the height.

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> Processing over pyramids is faster and it considers the larger scale features and the small scale features. Correlation is first analysed on the coarse level data. Once I have the indices I can just proceed to more detailed pyramid, where the previously determined shifts are the basis for the moving window analysis.

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> So much in short, if you need more details, I can provide them in the following days!

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> Klemen

That would be great. My plan was to use epipolar lines in my stereo matching process, because it would be faster than cross-correlating the whole datasets. But it seems like I need a lot of camera parameters for this. Like you I have the lons and lats for each pixel and the satellite position. And that is where I'm stuck. I just don't know how to compute the height with that intersection point. Maybe it's just trivial (because on all the papers I've read about that topic, it's all about that correspondence point problem not about the height calculations- most of them just end with "and now we can compute the height". So I decided to do it like this:

[http://solarphysics.livingreviews.org/open?pubNo=lrsp-2011-5 &page=articlesu6.html](http://solarphysics.livingreviews.org/open?pubNo=lrsp-2011-5&page=articlesu6.html)

Well anyways, I'm looking forward to your discussion paper.
