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Only dual Rx observations allowed?

6 messages

Young, Ken <kyoung@cfa.harvard.edu>

Wed, Jun 14, 2017 at 9:50 AM

To: "Tirupati Kumara, Sridharan" <tksriddharan@cfa.harvard.edu>, Mark Gurwell <mgurwell@cfa.harvard.edu>, "Petitpas, Glen" <gpetitpas@cfa.harvard.edu>, Qizhou Zhang <qzhang@cfa.harvard.edu>, Ramprasad Rao <rrao@asiaa.sinica.edu.tw>, Chunhua Qi <cqi@cfa.harvard.edu>, David Wilner <dwilner@cfa.harvard.edu>, "Patel, Nimesh" <npatel@cfa.harvard.edu>, "Zhao, Jun-Hui" <jzhao@cfa.harvard.edu>

A lot of my software still contains provisions for operating in single receiver mode, even though we have not done so in many months. I could simplify and clean up my code if I remove all the single receiver pathways. That would make my code cleaner, easier to understand and probably less buggy. Would anyone object if I ripped out all the single receiver portions of my code, and made it assume dual receiver operation in all cases?

Thanks for any input!

Taco

Mark Gurwell <mgurwell@cfa.harvard.edu>

Wed, Jun 14, 2017 at 9:58 AM

To: "Young, Ken" <kyoung@cfa.harvard.edu>
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What are the downsides? Would there be anything that would prevent use of a single receiver (say, if all the 400s were offline, could we still run with the 345s only, even if it meant saving a bunch of worthless data). Is there something that *requires* a pair of receivers in other words?

Otherwise, knock yourself out, IMO

-m

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Young, Ken <kyoung@cfa.harvard.edu>

Wed, Jun 14, 2017 at 10:06 AM

To: Mark Gurwell <mgurwell@cfa.harvard.edu>

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The only downside I can see is that occasionally we'd record a whole lot of bad data from a receiver set that could not tune to a requested frequency. For example, a track at 400 GHz could only use the 400 receivers, because the 345s can't go that high. But I think it's rare for a proposer to have no interest whatsoever in a different band. Someone interested in a line at 403 GHz probably would like some 230 GHz data if it came for free. SWARM has no additional capabilities in a single receiver mode. So I think we lose little or nothing by declaring that we will never do a single receiver observation again. We have not run a single receiver track since the ASIC correlator was retired, and I haven't heard anyone complain about that.

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Mark Gurwell <mgurwell@cfa.harvard.edu>

Wed, Jun 14, 2017 at 10:08 AM

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Makes sense, and I agree that there would always imo be a use for the other polarization since it could be a different atmospheric window.

Mark

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Young, Ken <kyoung@cfa.harvard.edu>

Wed, Jun 14, 2017 at 10:12 AM

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Yes, at worst we would *very rarely* record a track for which half of the data is garbage. But from a more realistic point of view, since in practice we only do dual receiver observations now, it is unlikely that single receiver observations would even work if we scheduled such a track, because we don't exercise that pathway through the code anymore, and it is apt to have accumulated fatal bugs by the time we tried to use it.

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Tirupati Kumara, Sridharan <tkstridharan@cfa.harvard.edu>

Wed, Jun 14, 2017 at 10:14 AM

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Taco, As long as making it "dual Rx only" will not prevent data taking when only one Rx is operational - which I understand is the case - I agree with removing any vestiges of the "single Rx mode".

Cheers,
TK.

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