Internal JIVE BlackHoleCam meeting

Date: 28 September 2016, 11:00 in Arpad's office
Subject: pipeline WP
Present: Arpad Szomoru, Des Small, Mark Kettenis, Ilse van Bemmel

Mark and Ilse attended the EHT software meeting in Nijmegen from 12-15 September. The aim of this meeting was to make progress on a wealth of EHT related topics, but the discussion often did not move beyond impressing personal experience on others. Nevertheless, some good ideas took hold. Most notable the EHT seems to be more open to using standard data formats like MS or FITS-IDI. See also the full trip report from Mark.

After a complete radio silence from the team in Nijmegen we discussed an alternative way to get people testing the new CASA components. Des suggested a workshop with a few experienced people, where we can provide 1-on-1 assistance. Mark adds that this should wait until the software is thoroughly tested by us, at the very least we need to be able to process an EVN dataset end to end with only CASA.

The current choice of dataset was somewhat impractical. Ilse suggests to use RP020, which is a GRB phase referencing experiment with a few bright calibrator sources. It was used in the summer-student program, and is an easy dataset to handle in AIPS. The phase reference source is somewhat resolved, but AIPS processing has shown that fringe fitting works well even with a point source model.

Des continues fine tuning the Python prototype. He wants to add a Figure-of-Merit in here before porting to C++. There is a LSQ solver in CASA, but it is not clear if this is in active use. He will investigate if we can use it. Otherwise we need to talk to the casacore people to make a wrapper for the current LSQ solver. Arpad suggests he makes a list of things to do including a timeline.

Oleg Smirnov approached us about the fringe fitter. He would like to use the prototype for further development outside CASA. This is OK with us, once the code is slightly further along, he will get access to the repository.

Following the EHT software meeting, Dirk Petry from ESO has continued working on the task importfitsidi in CASA. He will add support for digital corrections (AIPS task ACCOR) which are needed for DifX correlators. He will also add support to import the correlator model for SFXC.

Actions
18: considering another dataset, ask dr Bob?
22: Mark will ask George if he is OK with publishing this list on a wiki
23: in progress. This document will need to go into the CASA Plone documentation server when fringecal is implemented
28: Ilse will attend the CALIM2016 meeting and talk with Jeff and George then
31,32: JIRA tickets awaiting action from George
33: this is superceded by 40

ID	Description	Owner	Ref.	Due
4	Write note on motivation for solver	Des	151019	
6	Write report on verification with AIPS (deliverable)	Ilse	151019	
18	Process EVN data with CASA	Mark & Des	160115	
22	Put up CASA to-do on the SKA-NL/BHC wiki	Mark	160404	
23	Write up phase model for CASA calibration	Des/Mark	160404	
27	Include verification test without EF station	Des/Ilse	160512	
28	Plan telecon with NRAO	Ilse	160620	Done
31	Definition of gain curve in CASA	Mark	160620	
32	Implement apply Tsys for MS	Mark	160620	
33	Migrate fringecal prototype to new solver	Des	160620	Done
35	NRAO: List of minimum parameters for fringecal	Ilse	160609	
36	NRAO: Define CASA XML template for fringecal	Ilse/Des	160609	
37	NRAO: Verification C++ fringecal against AIPS	Ilse/Des	160609	
38	NRAO: Benchmark fringecal	TBD	160609	
39	Make timeline for prototype enhancements	Des	160928	asap
40	Find existing CASA solver and test if useful	Des	160928	
41	Get in touch with Nijmegen about test status	Ilse	160928	

Next meeting: TBD