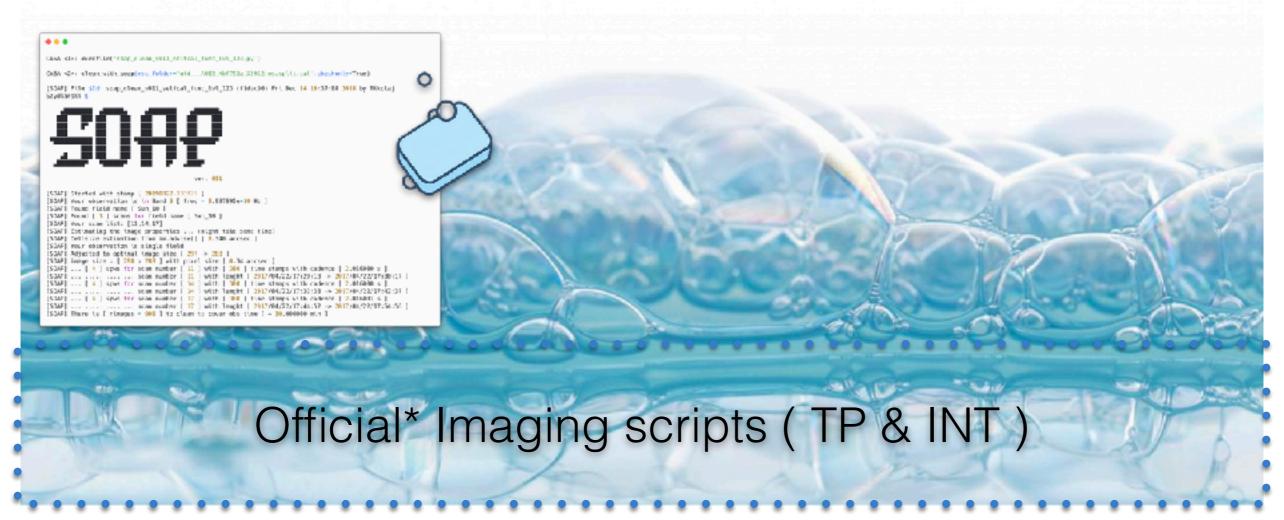
Rosseland Centre for Solar Physics

SoAP - Solar ALMA Pipeline

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What is (OSLO) SoAP



Calibration & QA2

Motivation

- There is no easy way to get science ready Solar ALMA images.
- o ... especially time series.
- New users have to learn CASA just to access/ generate images.

Design Goals

- o It has to be be easy to use.
- Automatic as much as possible (black box functionality)
- Control versions i.e., it must be possible to reproduce results.
- o Is it possible to make it generic?

```
CASA <4>: ll -d *.cal*
drwxr-xr-x 23 mikolajs 4098 Jun 15 2018 uid___A002_Xbf792a_X5912.calibration/
drwxr-xr-x 28 mikolajs 4098 Jun 15  2018 uid___A002_Xbf792a_X5912.ms.split.cal/
CASA <5>: execfile('soap_clean_v012_selfcal_func_lvl_123.py')
[SoAP] :: Loading clean_with_soap() function.
[SoAP] :: .....: loading done!
[SoAP] :: ...... see help string by entering: clean_with_soap?
[SoAP] :: explore your calibrated ms file with: clean_with_soap(msc_folder='_name_of_your_ms_file_',checkonly=True)
CASA <6>: clean_with_soap('uid___A002_Xbf792a_X5912.ms.split.cal/',checkonly=True)
[SOAP] File $Id: soap_clean_v012_selfcal_func_lvl_123 (f1dac90) Fri Dec 14 16:37:08 2018 by Mikolaj Szydlarski $
ver. 012
[SOAP] Started with stamp [ 20200301-194514 ]
SOAP] Your observation is in Band 3 [ freq = 9.997895e+10 Hz ]
SOAP] Found field name [ Sun 10 ]
 SOAP] Found [ 3 ] scans for field name [ Sun_10 ]
 SOAP] Your scan list: [11,14,17]
SOAP] Estimating the image properties ... (might take some time)
SOAP] Cellsize estimation from im.advise() [ 0.340 arcsec ]
 SOAP] Your observation is single field
SOAP] Adjusted to optimal image size [ 297 -> 288 ]
 SOAP] image size : [ 288 x 288 ] with pixel size [ 0.34 arcsec ]
 SOAP] ... [ 4 ] spws for scan number [ 11 ] with [ 300 ] time stamps with cadence [ 2.016000 s ]
 SOAP] ... .... ... scan number [ 11 ] with lenght [ 2017/04/22/17:20:13 -> 2017/04/22/17:30:17 ]
 SOAP]...spectral windows selected for scan [ 14 ] : [0,1,2,3]
[SOAP] ... [ 4 ] spws for scan number [ 14 ] with [ 300 ] time stamps with cadence [ 2.016000 s ]
 SOAP] ... .... ... scan number [ 14 ] with lenght [ 2017/04/22/17:32:33 -> 2017/04/22/17:42:37 ]
 SOAP]...spectral windows selected for scan [ 17 ] : [0,1,2,3]
SOAP] ... [ 4 ] spws for scan number [ 17 ] with [ 300 ] time stamps with cadence [ 2.016001 s ]
SOAP] ... .... scan number [ 17 ] with lenght [ 2017/04/22/17:44:52 -> 2017/04/22/17:54:56 ]
SOAP] There is [ nimages = 900 ] to clean to cover obs time [ ~ 30.000000 min ]
```

How to access SoAP

- Create GitHub account at: https://github.com/
- Sent your login name to miko@astro.uio.no
- ... I will then manually add you to developers team and you will be able access SoAP here:

https://github.com/SolarAlma/SoAP