SQWG3-PM3: WP2220
Dark correction

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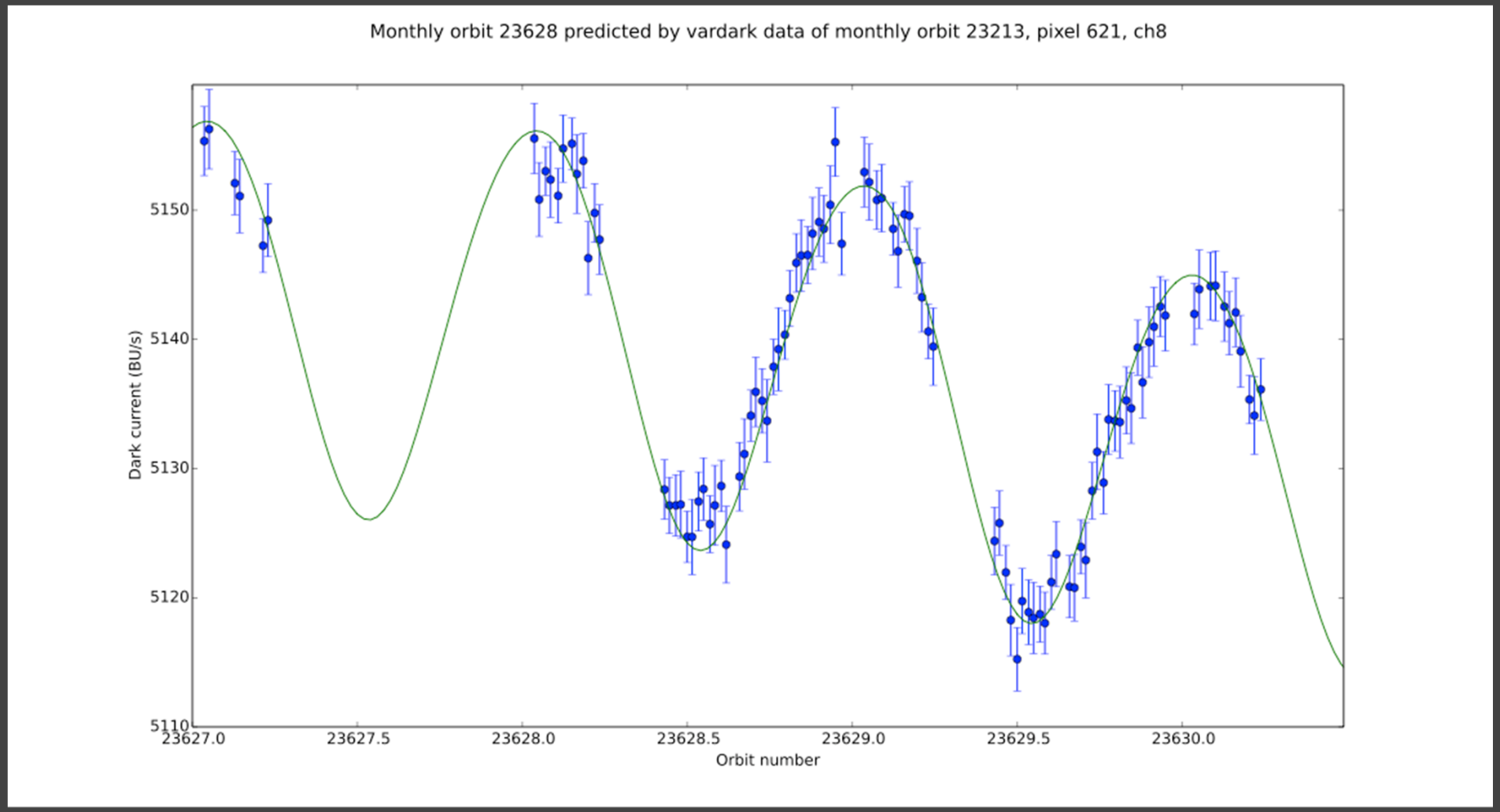
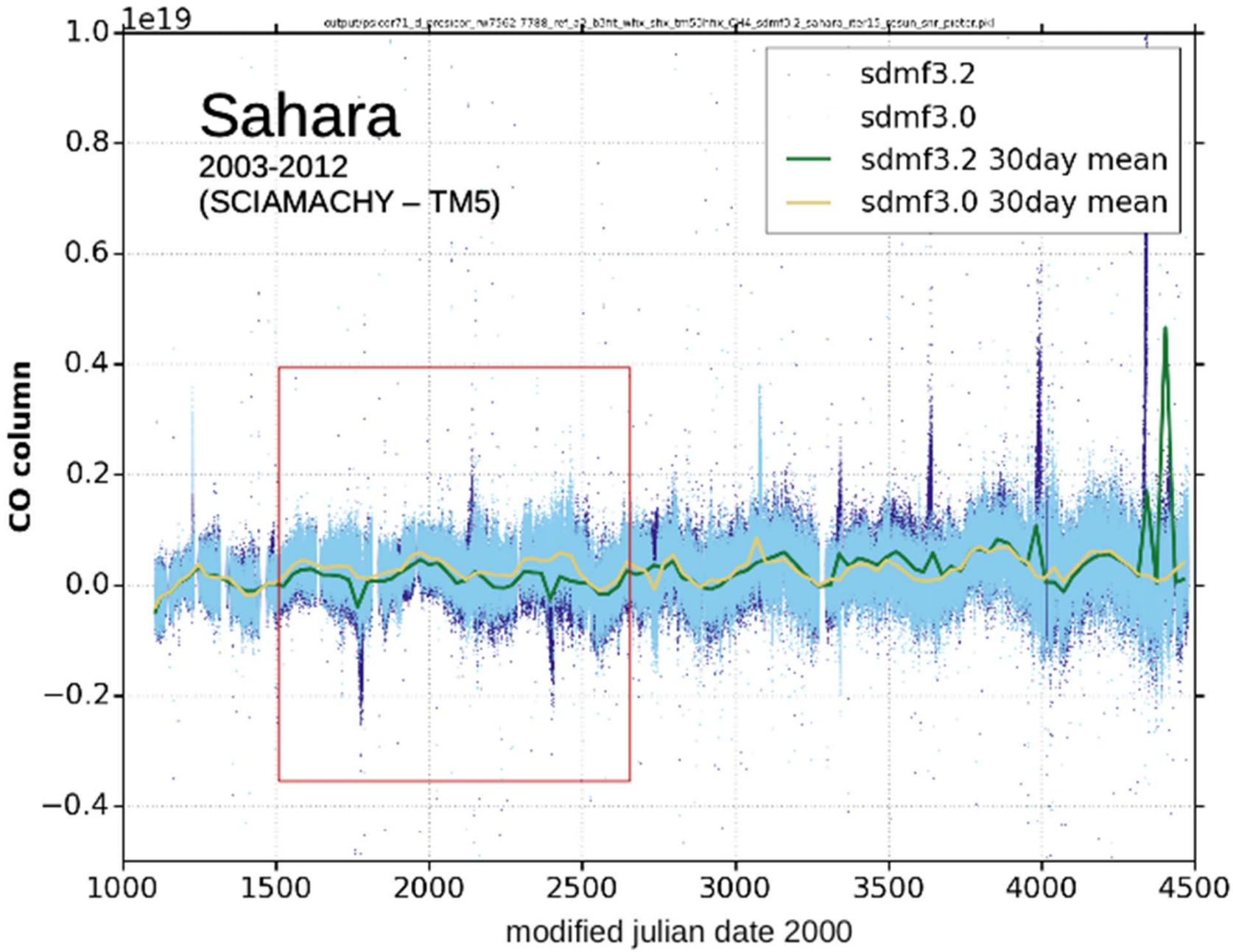
Approach

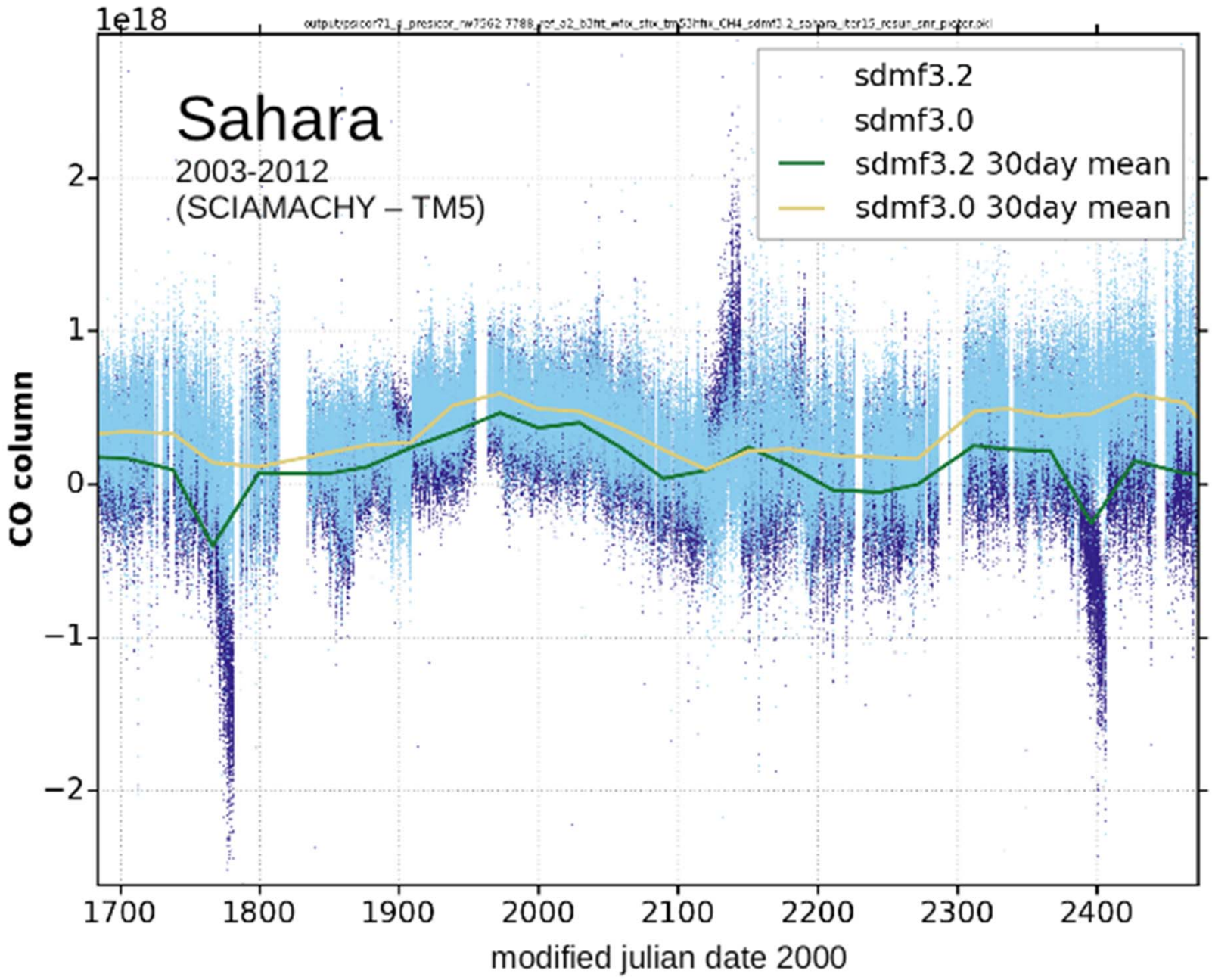
- Dark signal: orbital variation + linear trend from orbit to orbit



Verification with CO over Sahara

- Comparison against SDMF 3.0 (no linear trend)
- Retrieval CO over Sahara compared to TM5 model values
- Results show changed outliers in residuals, some improved, more got worse
- Dark correction suspected (all other options ruled out)
- Cause not yet found
- SRON L2 people say: don’t use as is


1e19
Sahara
2003-2012
(SCIAMACHY – TM5)
sdmf3.2
sdmf3.0
sdmf3.2 30day mean
sdmf3.0 30day mean
CO column
modified julian date 2000
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
−0.4
1000
1500
2000
2500
3000
3500
4000
4500


1e18
Sahara
2003-2012
(SCIAMACHY – TM5)
sdmf3.2
sdmf3.0
sdmf3.2 30day mean
sdmf3.0 30day mean
CO column
2
1
0
−1
−2
1700
1800
1900
2000
2100
2200
2300
2400
modified julian date 2000

Status and Possible options

Status:

- Not good enough for L2

Options:

- Identify and solve problem for SDMF 3.2 (time impact unclear, weeks to few months?) or
- Use SDMF 3.0 (documentation currently rudimentary)