MOBY259 Pre-Deployment Calibrations (Pre-Cal In Progress…)
File: \data\2015\MOBY259\doc\MOBY259_PreCal_Results(MF).pptx (rev: 18Sep2015,MF)

Changes:
During MOBY257 deployment the Top arm collectors were flooded – most likely via a boat impact. The MOBY257 recovery anomaly required much re-building for MOBY259:

EdTop collector head has new lens, mirror, diffuser parts - Spectralon & Teflon (08Sep2015, M.Y.)
LuTop head has new window, lens, mirror. All Lu bezels have new Cu inserts.
Only 2x Bot FOs re-usable from M257. 5x FOs replaced = Es, Ed/LuTop, Ed/LuMid

New (old) MOBY spar with 2x new green cables for new MOBY & Charge controllers.
New Top arm / brackets. New Mid arm / base / brackets.

Notes:
Terrence shortened the Mid arm length to allow LuMid FO connection (length not yet measured!)

The 16-Sep-2015 MOBY deployment was delayed due to KOK engine problems. This allowed us time to check the Polarization response of MOBY collectors (NOT *yet?* LuMOS) – see **Section 1.**

Section 2, Pre-deployment MOBY calibration results *…NOT YET INCLUDED HERE…*

TABLE 1, **Configuration for MOBY259cfg01, MOS205cfg16, MUX05cfg05**

	LuTop	LuMid	LuBot	Es	EdTop	EdMid	EdBot	Eu
MUX Port	8	9	1	5	7	2	10	NA
MUX Pos	600	680	40	360	520	120	760	NA
MUX Pene	328	329	317	325	327	321	330	NA
FO Head	Lu40	Lu41	Lu42	Es40	Ed40	Ed41	Ed42	NA
FO Pene	322	NA	36	30	304	32	33	NA
FO #	3002	4504	4106	700	3001	1801	3005	NA

Section 1. Pre-MOBY259 Polarization Check (EdTop, Es Not Yet Completed)

As per Ken Voss' request, the MOBY sensors vierwed an (unpolarized) integrating sphere source, NIST OL455-18U, with a dichroic sheet polarizer at its' exit port, Melles Griot 03-FPG-007 (#1 of 2). The "polarizer plane of maximum transmission, indicated by engravings on the outside edge" of the polarizer was aligned parallel to the MOBY FO plane when the polarizers' rotation stage was at 90 degree setting. This setup is shown in Figure 1

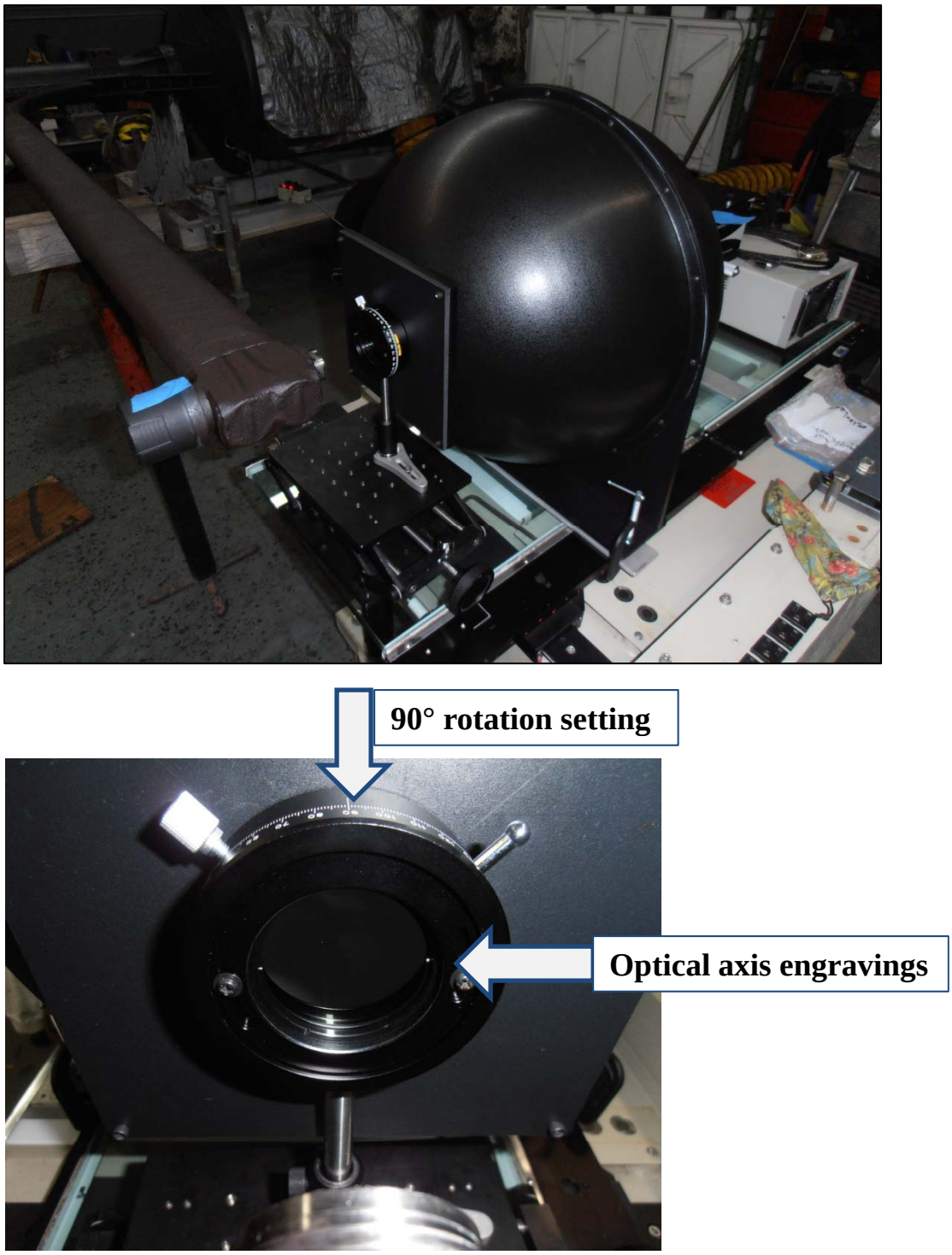

Figure 1, Setup for MOBY259 pre-cal Polarization check

Polarization scans have been collected for Lu/EdBot, Lu/EdMid, LuTop. Scan sets were collected at polarizer rotation settings 90 to 270°, at 10° intervals (Δ20° for EdMid). Net Signal (ADU) & SNR for these 19x spectra are plotted in Figure 2 for LuBot.

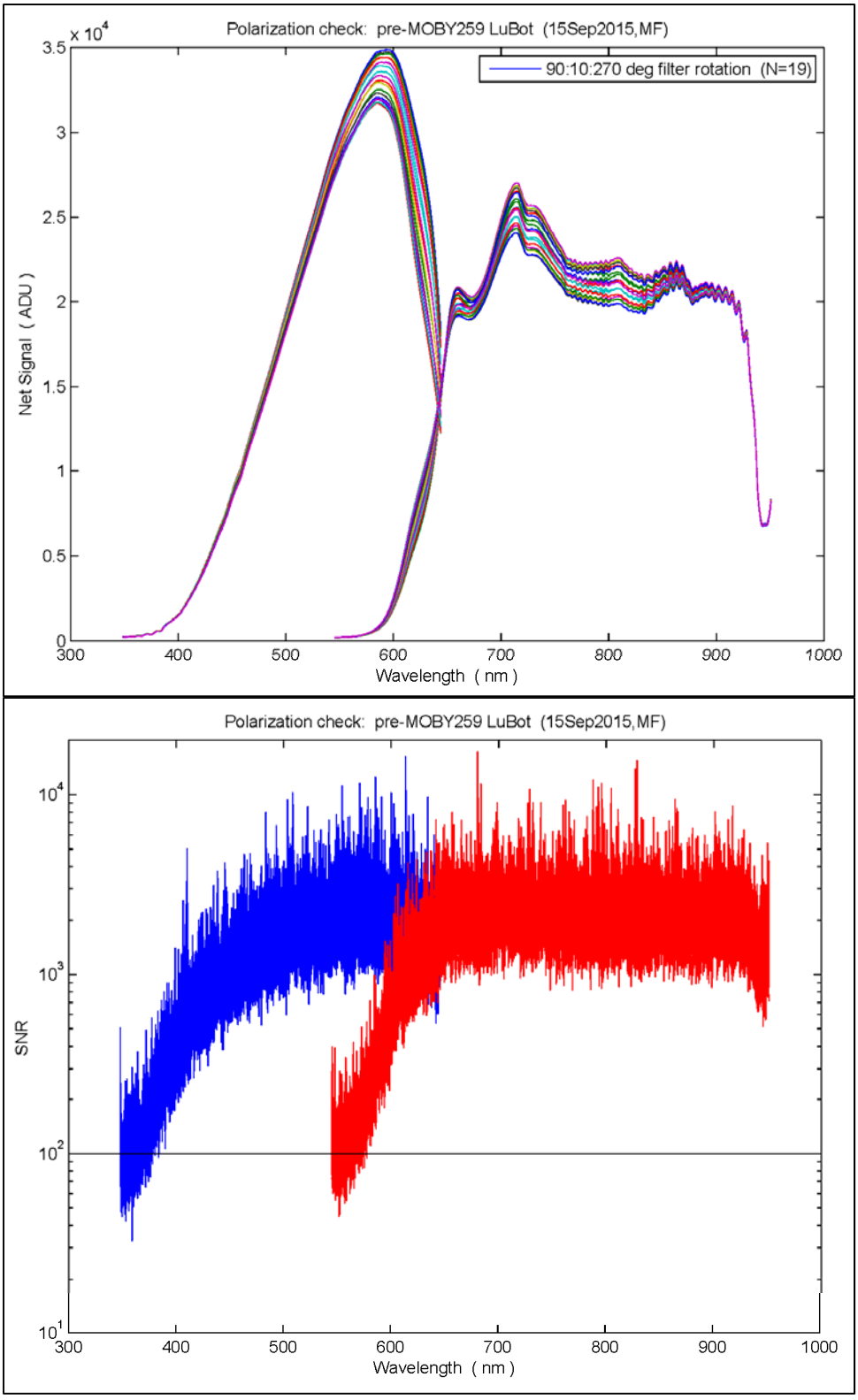

Figure 2, Polarization check data for LuBot

Figure 3 plots LuBot spectral net signals relative to (divided by) net signal at 90° polarizer rotation.

Data have NOT yet been adjusted for MOS Thermal Correction, nor OL photodiode monitor readings. However, TT7 temperatures were ~stable, and PD Amps varied <5 parts in ~9800.

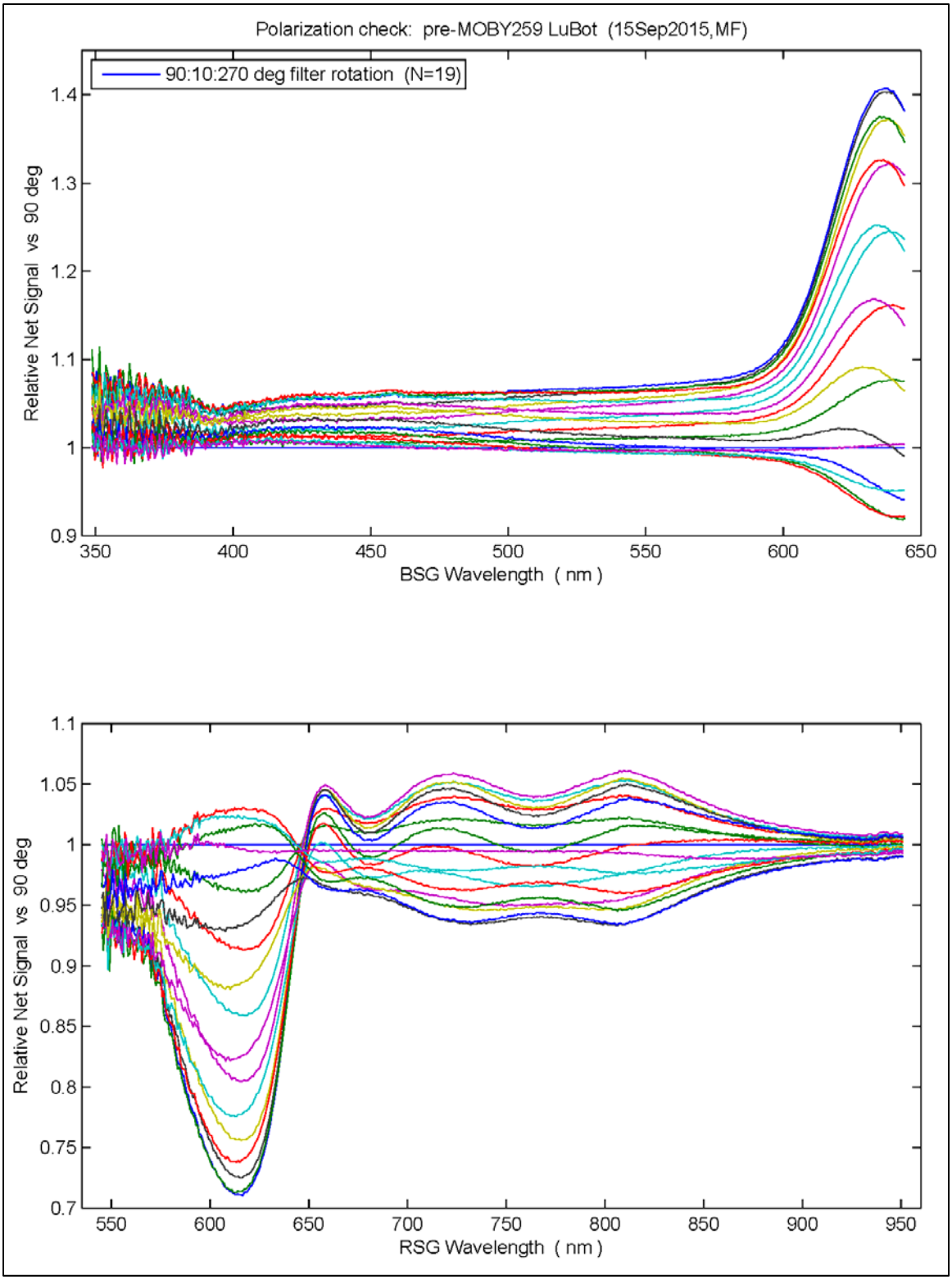

Figure 3, Polarization spectral net signal vs 90° for LuBot

Figure 4 plots LuBot relative net signal data, band averaged (10 nm FWHM Gaussian response) at selected wavelengths.

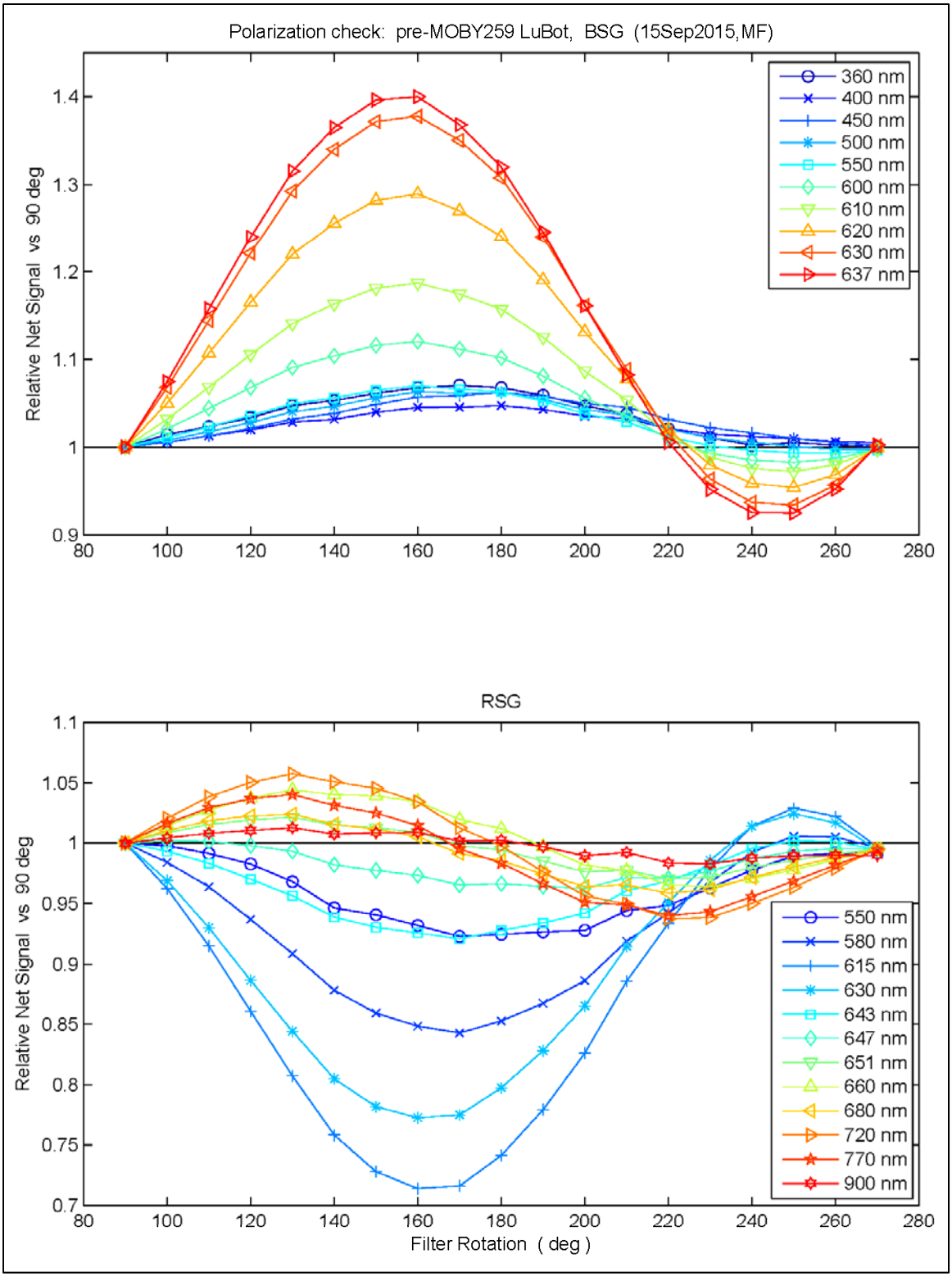

Figure 4, Band-Averaged Polarization net signal vs 90° for LuBot

Figure 5 & 6 are spectral and band-averaged Polarization data for LuMid

Note: Y-Axis scale changed vs LuBot, Fig.3

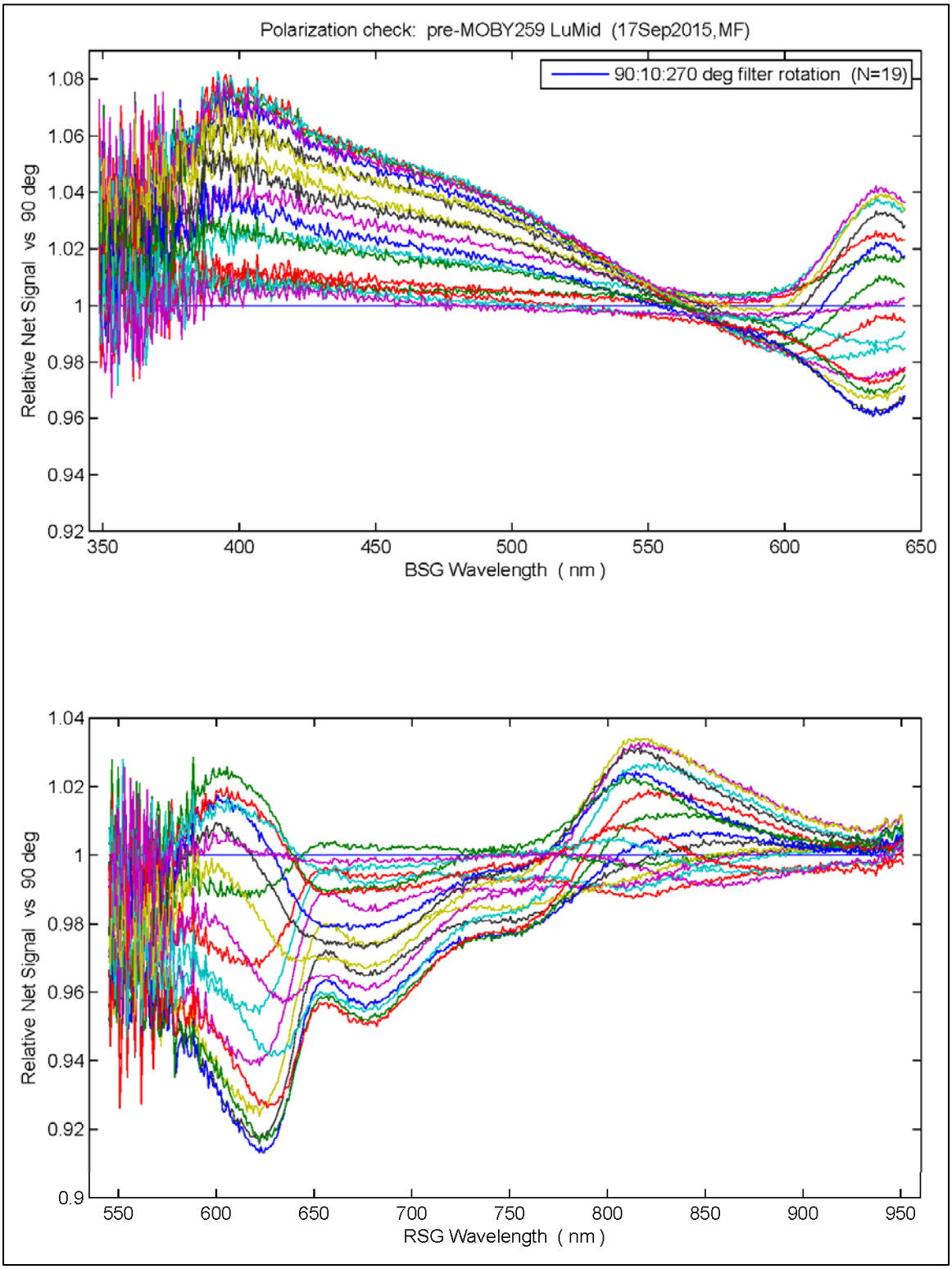

Figure 5, Polarization spectral net signal vs 90° for LuMid

Note: Y-Axis scale changed vs LuBot, Fig.4

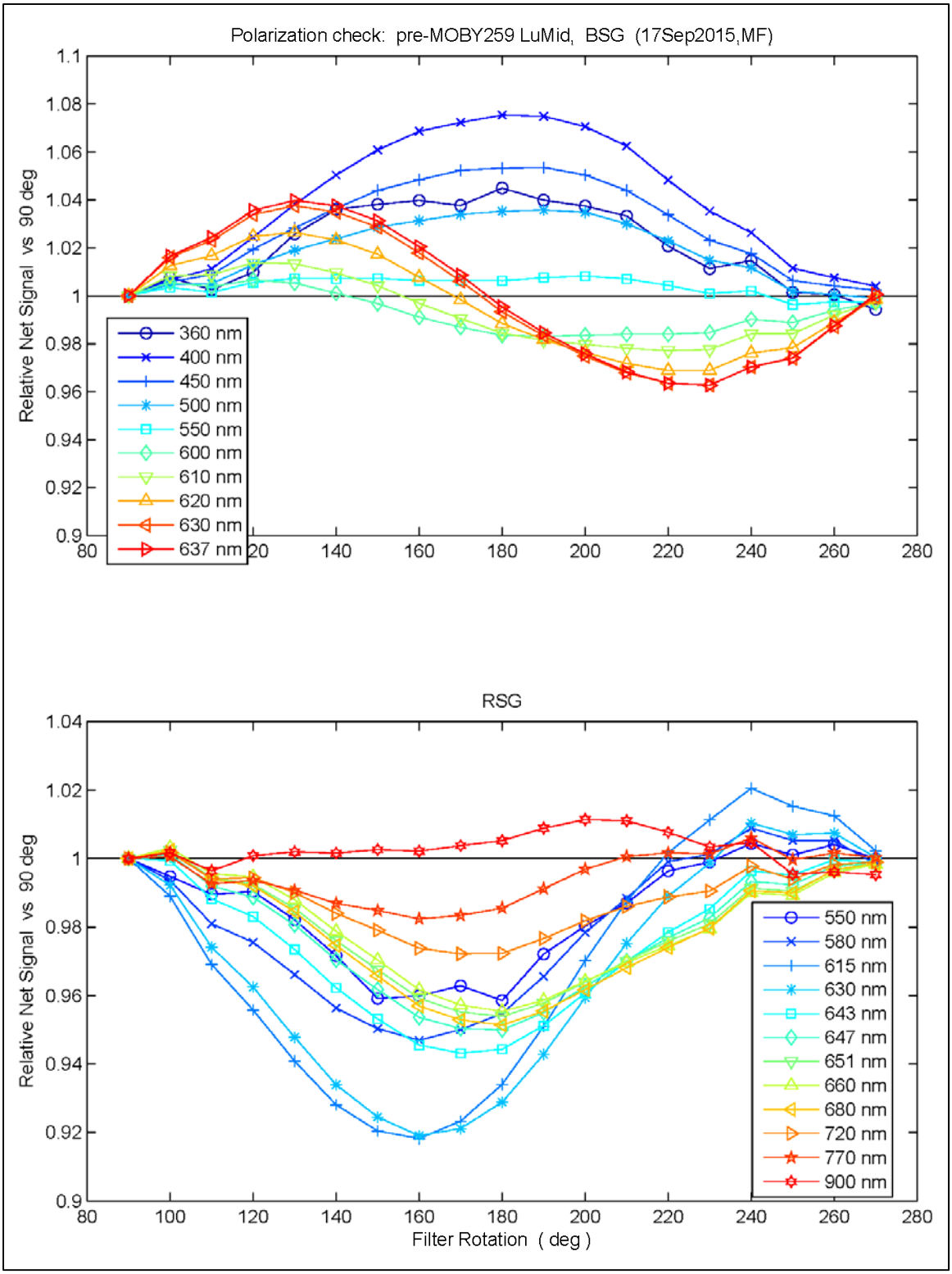

Figure 6, Band-Averaged Polarization net signal vs 90° for LuMid

Figure 7 & 8 are spectral and band-averaged Polarization data for LuTop

Note: Y-Axis scale same as LuMid, Fig.5

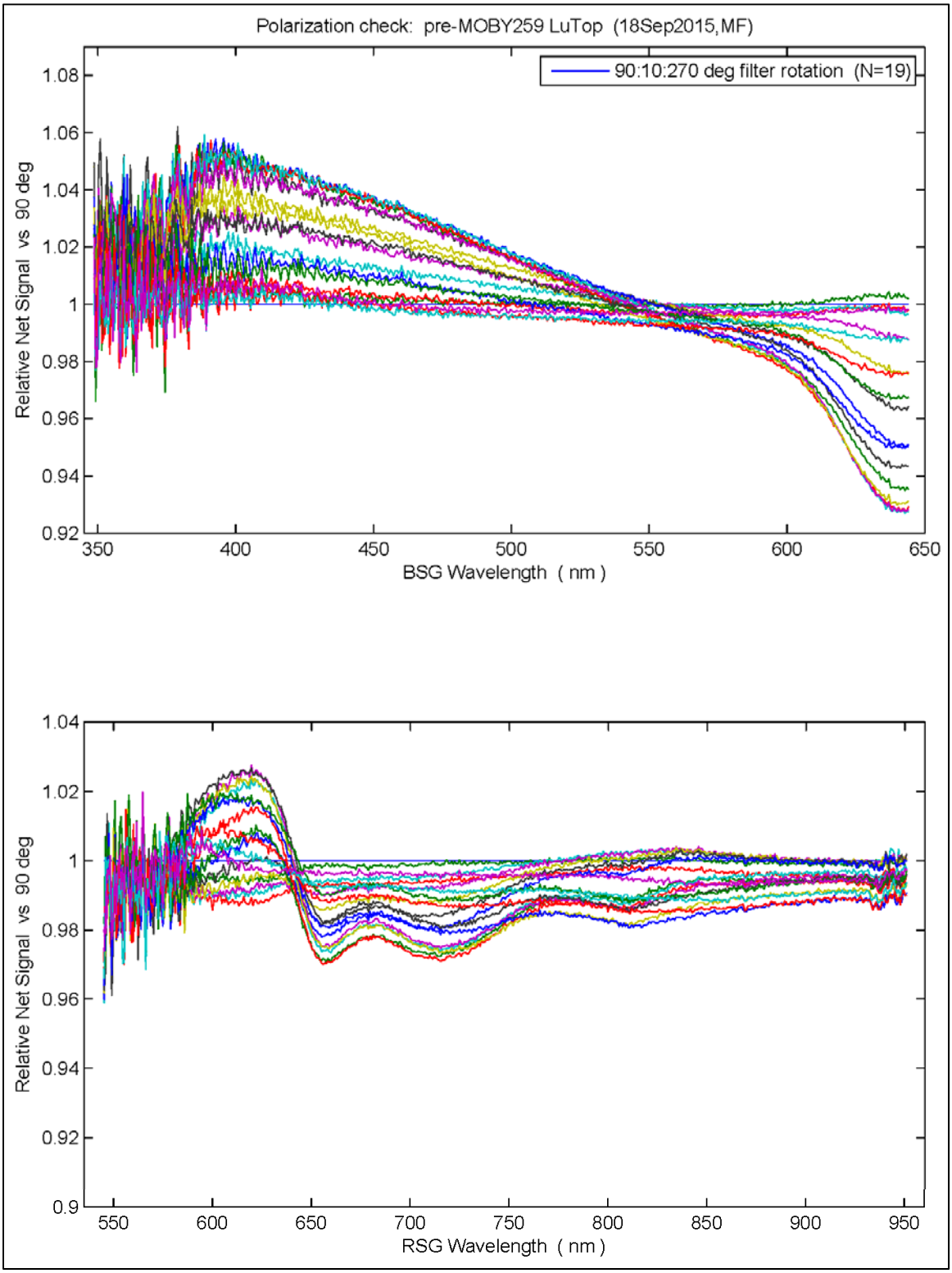

Figure 7, Polarization spectral net signal vs 90° for LuTop

Note: Y-Axis scale same as LuMid, Fig.6

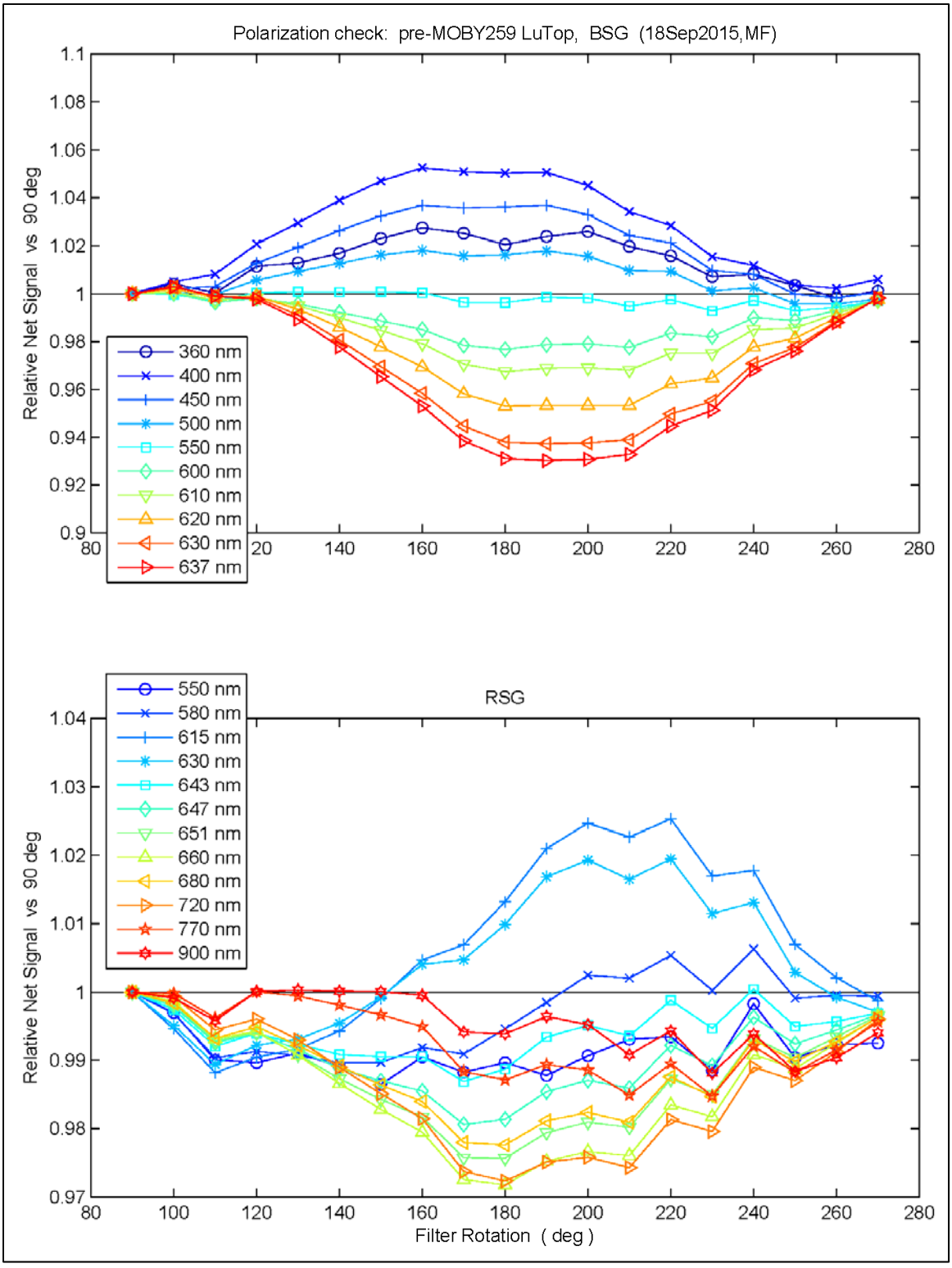

Figure 8, Band-Averaged Polarization net signal vs 90° for LuTop

Figure 10 shows Net Signal (ADU) & SNR for 19x spectra for EdBot.

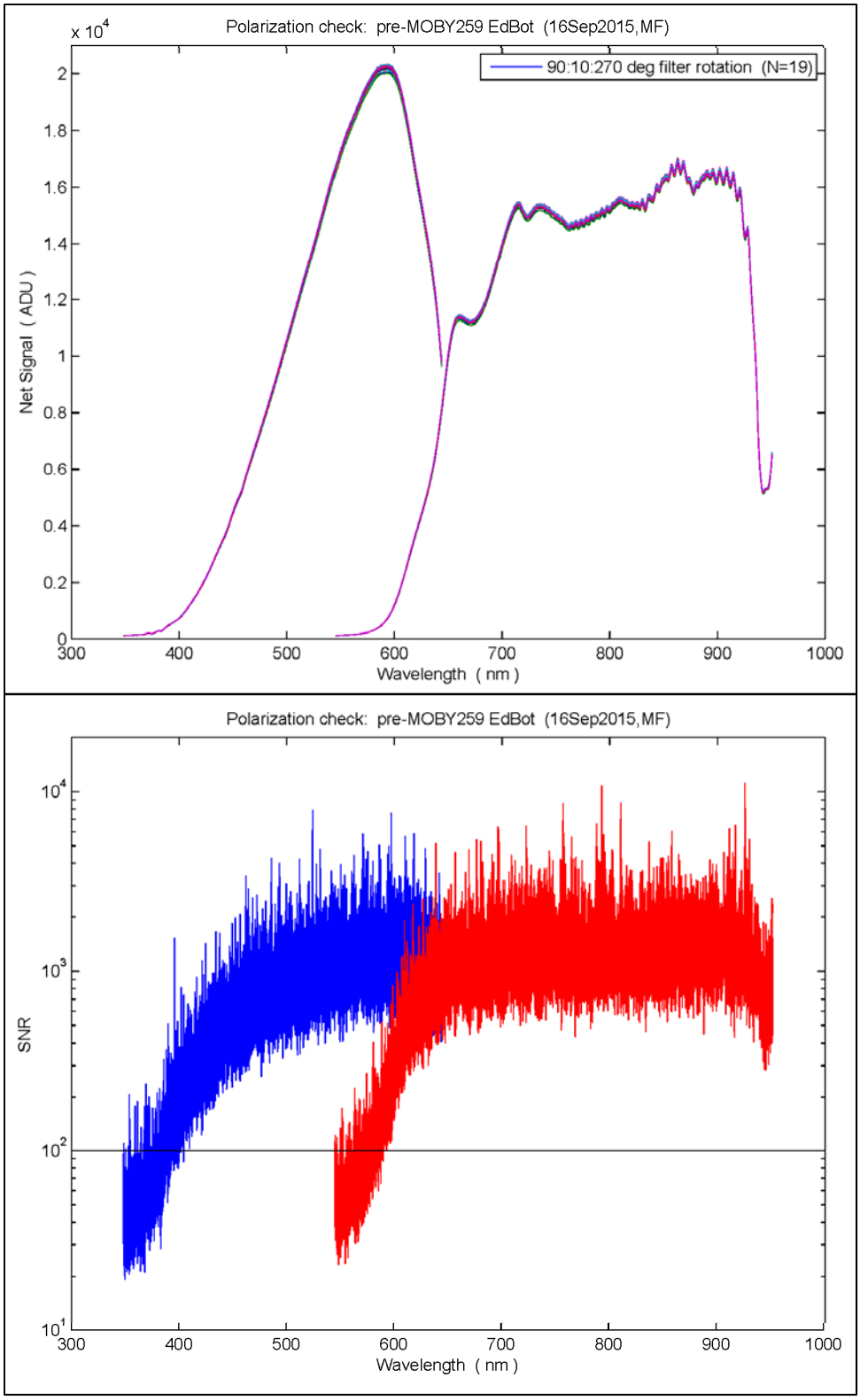

Figure 10, Polarization check data for EdBot

Figure 11 & 12 are spectral and band-averaged Polarization data for EdBot

Data have NOT yet been adjusted for MOS Thermal Correction, nor OL photodiode monitor readings. However, TT7 temperature swere ~stable, and PD Amps varied <5 parts in ~9800.

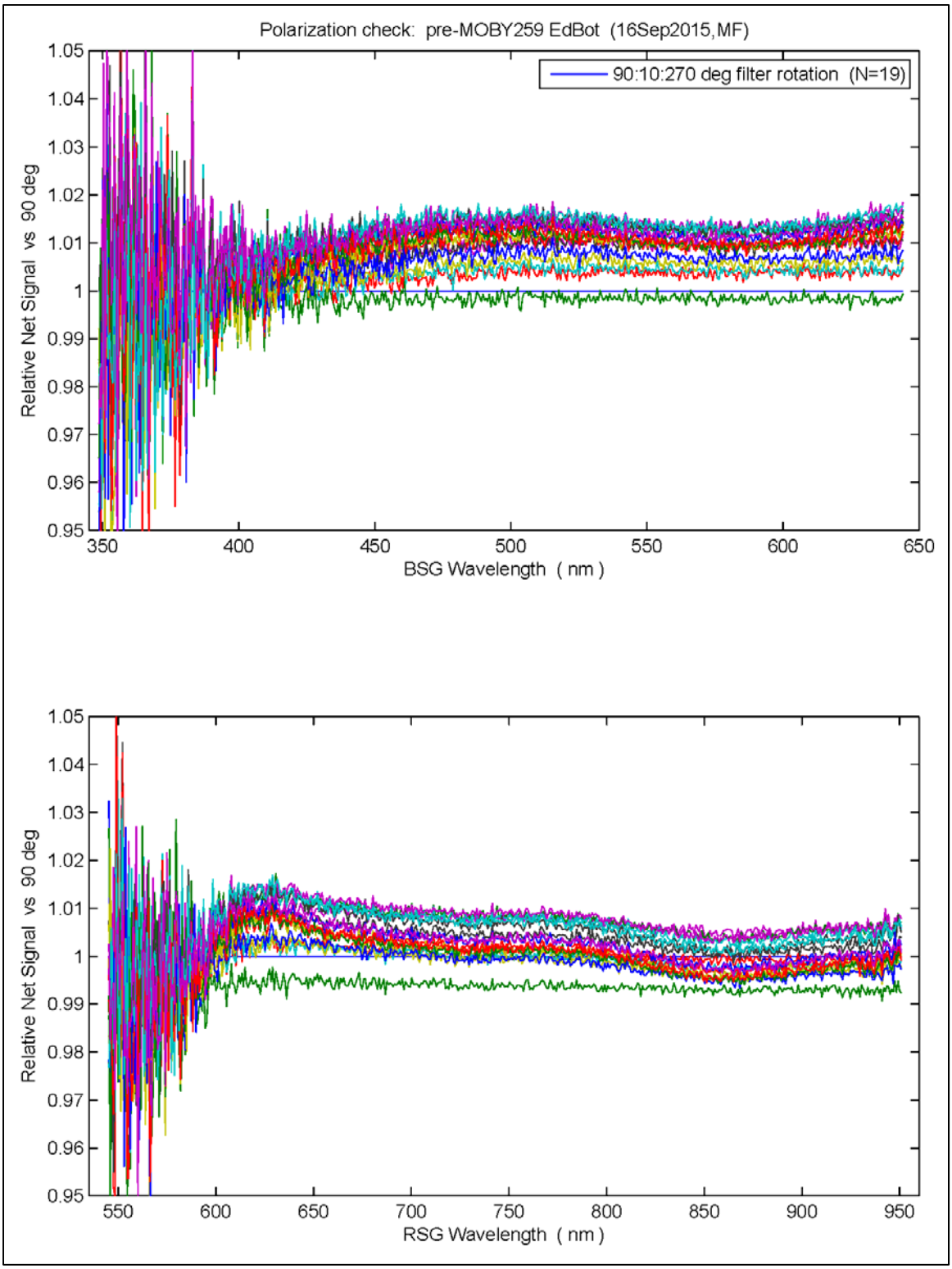

Figure 11, Polarization spectral net signal vs 90° for EdBot

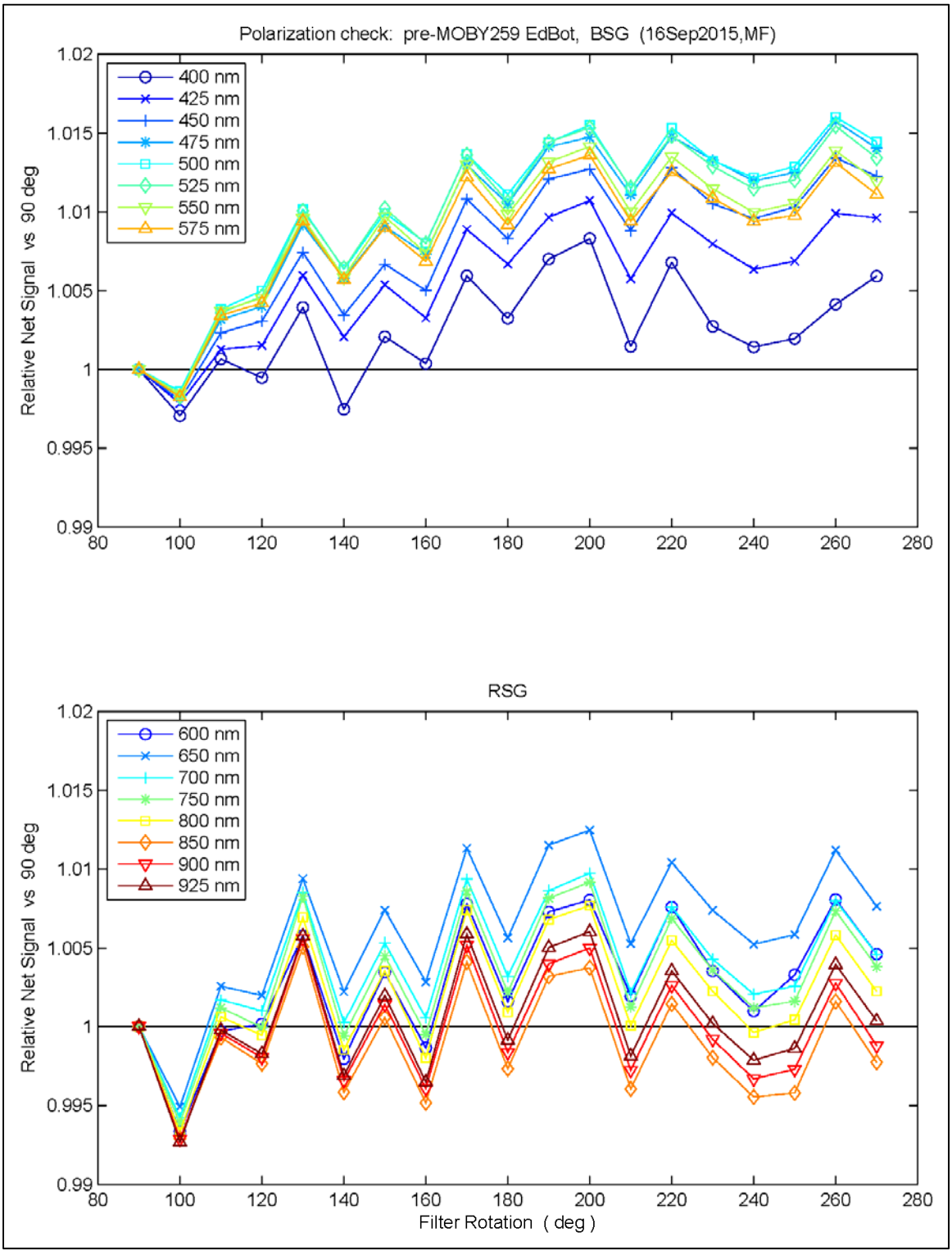

Figure 12, Band-Averaged Polarization net signal vs 90° for EdBot

Figure 13 & 14 are spectral and band-averaged Polarization data for EdMid

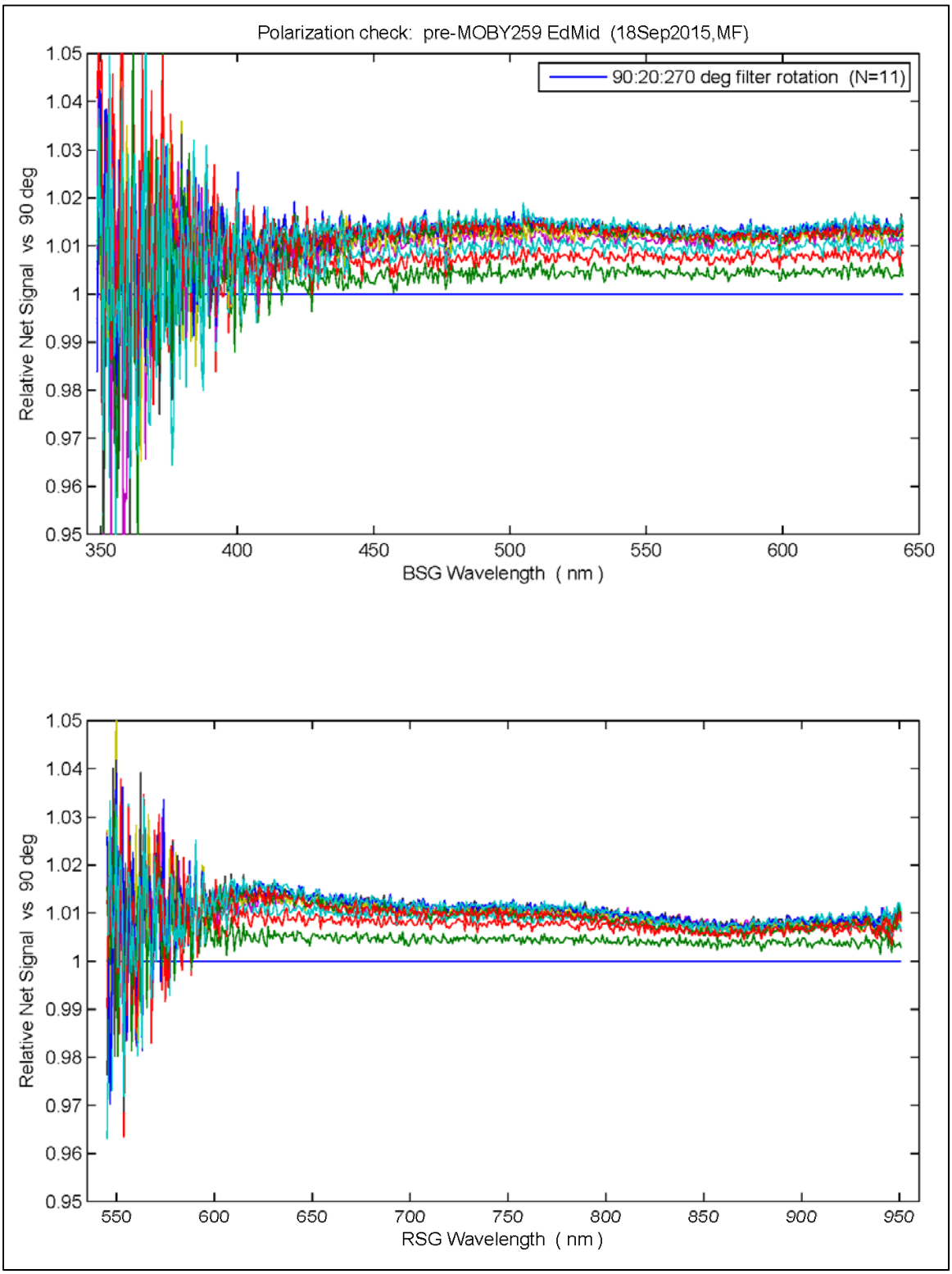

Figure 13, Polarization spectral net signal vs 90° for EdMid

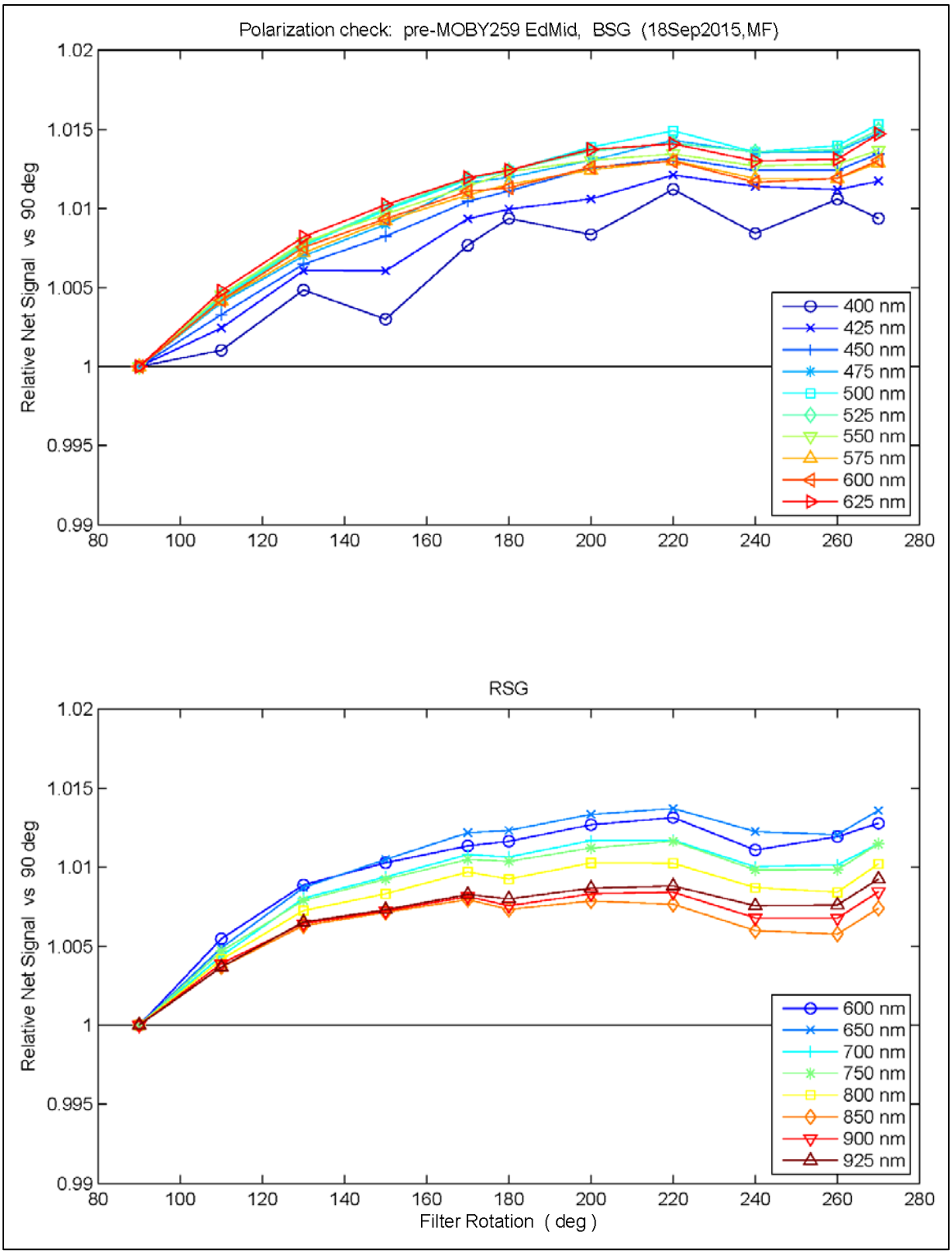

Figure 14, Band-Averaged Polarization net signal vs 90° for EdMid

…T.B.C… Polarization checks for EdTop & Es