



Supplement of

**Comparative analysis of GOME and SCIAMACHY
reflectance over Pseudo-Invariant Calibration Sites:
implications for spectrometers cross-calibration**

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Supplementary Figures

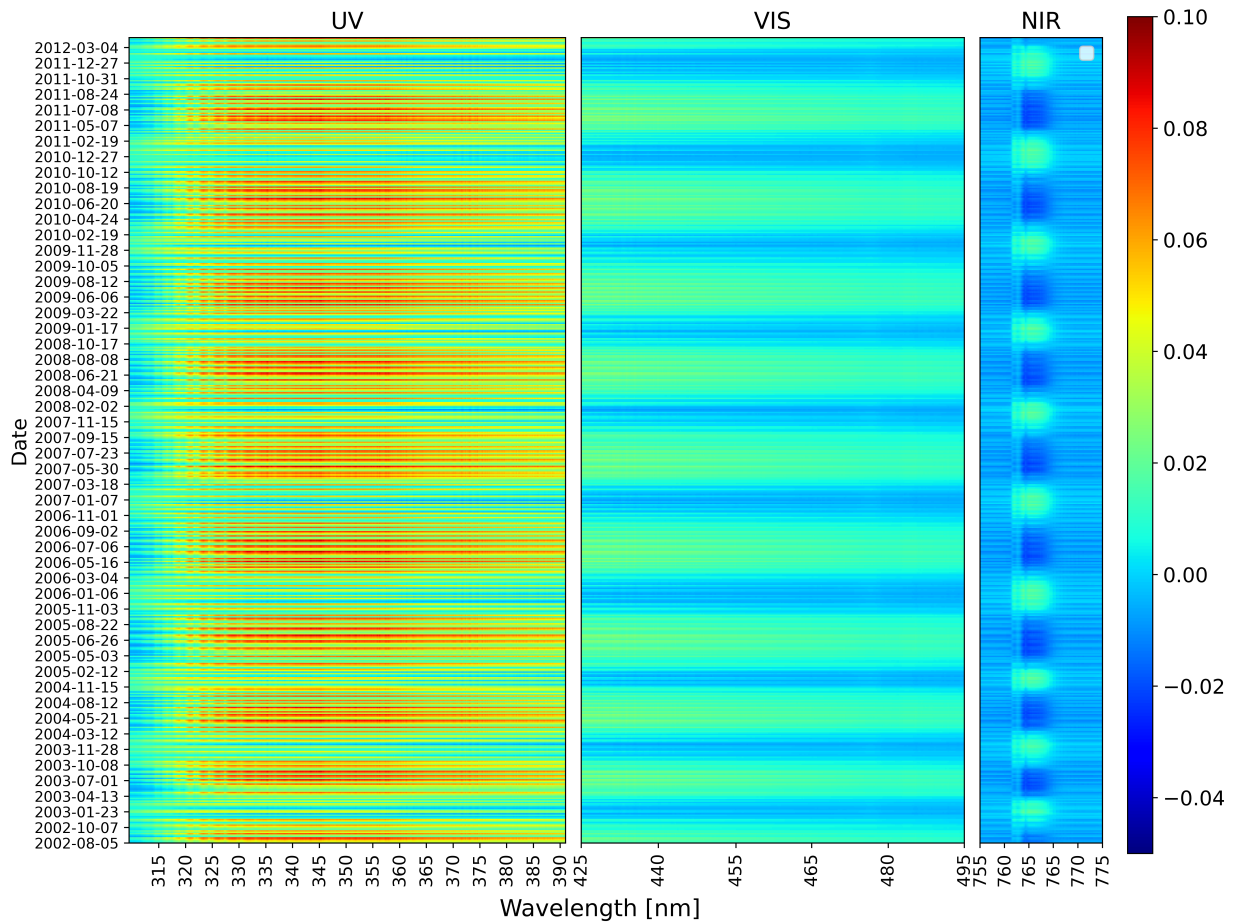


Figure S1: Heatmap of the difference in the reflectance observations of the Libya4 site. The difference was calculated based on the equation $R_{corr} - R$ (corrected - original reflectance).

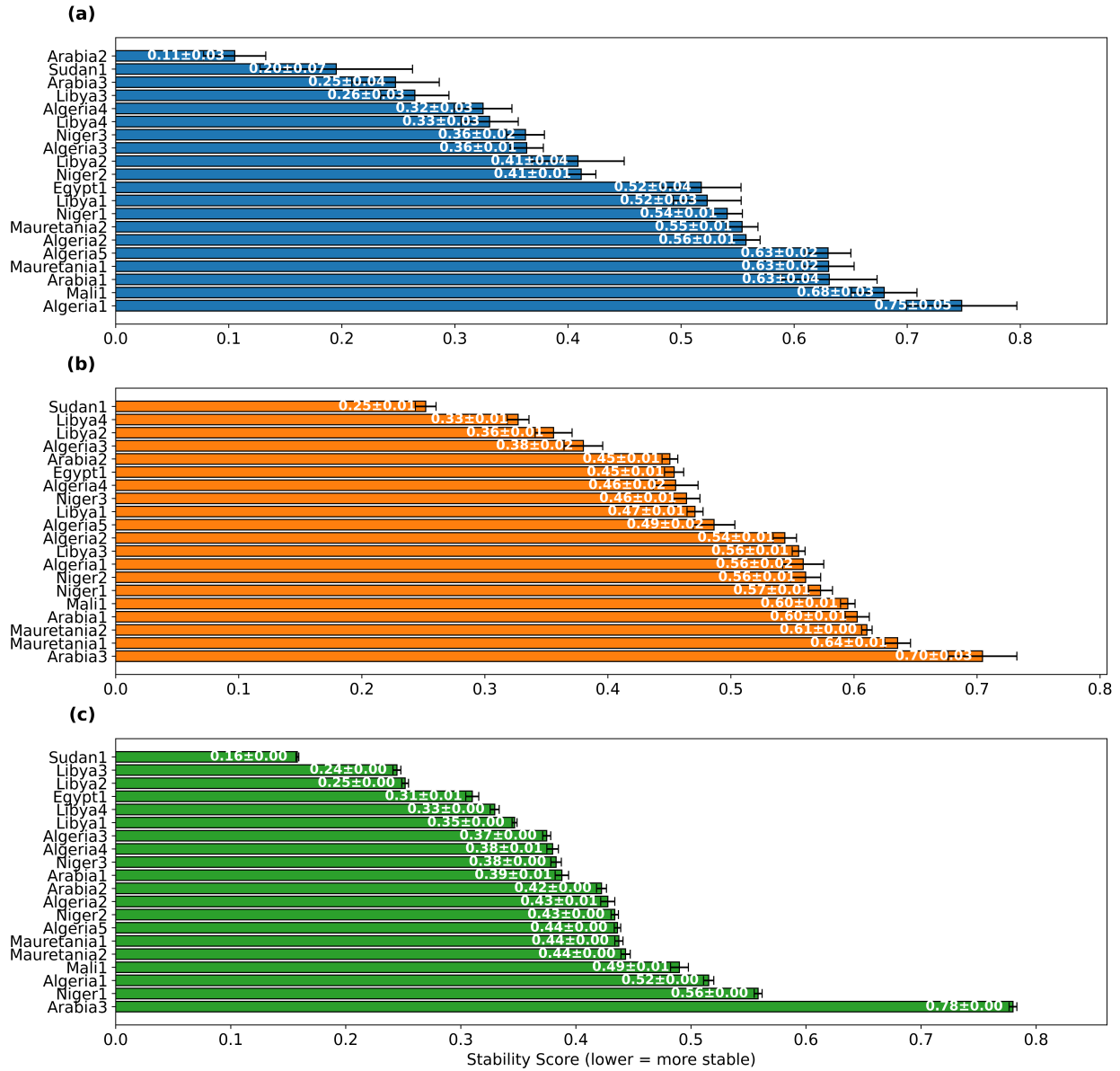


Figure S2: Ranking of pseudo-invariant calibration sites (PICS) based on the stability score (SS) of the spectral bands: (a) UV, (b) VIS, and (c) NIR.

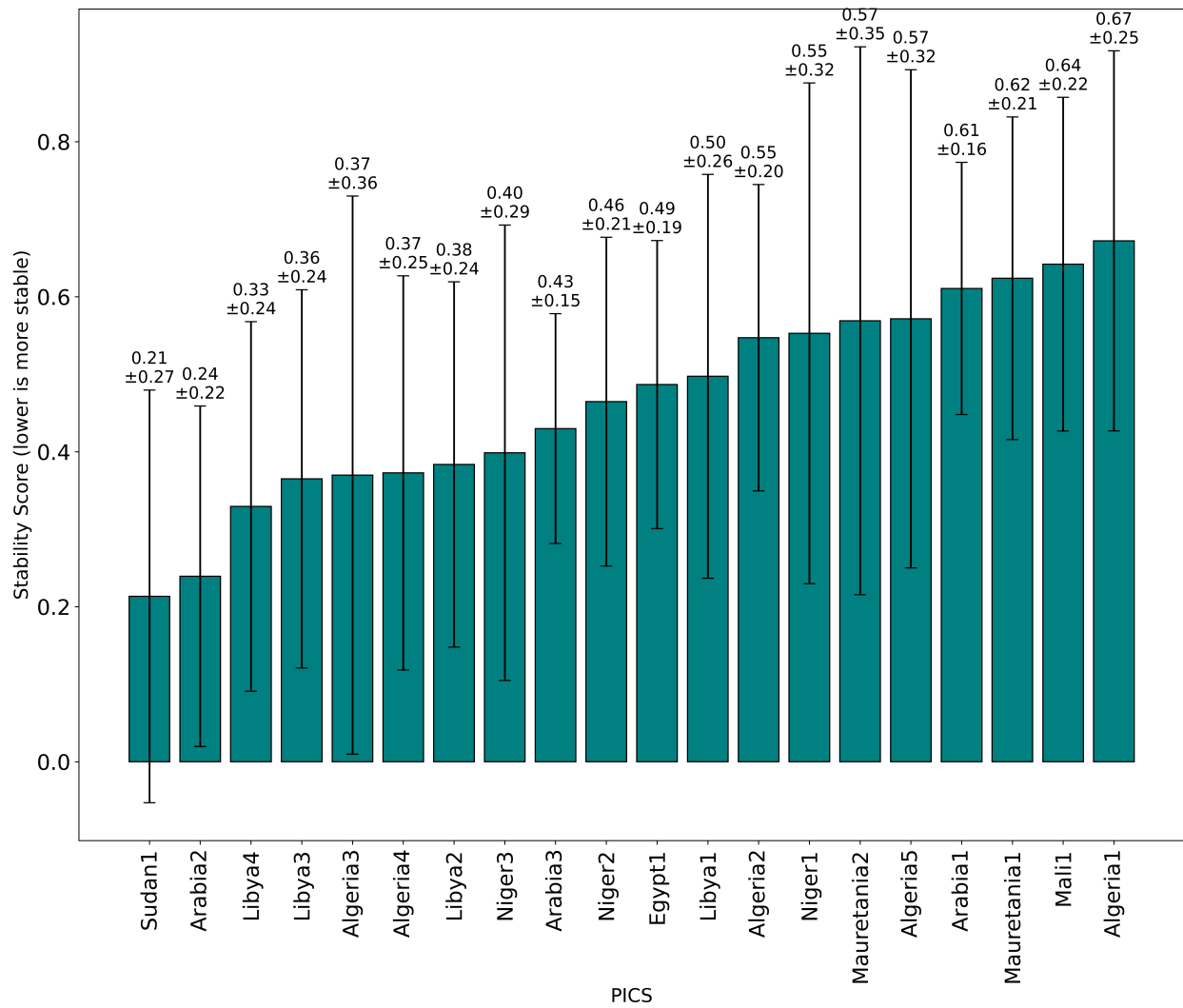


Figure S3: Average stability score (SS) of each PICS derived from the spectral analysis. The mean SS and its standard deviation are shown for each site.

Supplementary Tables

Table S1: Pseudo-invariant calibration sites (PICS) with their geographic coordinates and the number of collocated observations identified for the SCIAMACHY and GOME spectrometers.

PICS	Center longitude [°]	Center latitude [°]	SCIAMACHY	SCIAMACHY (CF < 0.25)	GOME	GOME (CF < 0.25)
Arabia1	46.76	18.88	571	548	614	547
Arabia2	50.96	20.13	594	562	518	453
Arabia3	43.73	28.92	658	563	573	468
Sudan1	28.22	21.74	583	565	1095	979
Niger1	9.81	19.67	605	579	1146	927
Niger2	10.59	21.37	622	562	860	708
Niger3	7.96	21.57	606	570	1199	983
Egypt1	26.10	27.12	587	553	942	818
Libya1	13.35	24.42	595	551	881	737
Libya2	20.48	25.05	609	579	970	845
Libya3	23.10	23.15	595	569	785	704
Libya4	23.39	28.55	666	568	869	716
Algeria1	-0.40	23.80	609	554	858	687
Algeria2	-1.38	26.09	567	528	996	802
Algeria3	7.66	30.32	588	525	1089	839
Algeria4	5.59	30.04	632	556	1076	839
Algeria5	2.23	31.02	497	436	1121	830
Mali1	-4.85	19.12	571	523	1214	905
Mauretania1	19.40	19.40	578	502	858	656
Mauretania2	20.85	20.85	601	543	1214	947