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Supplement of

Coupling aerosol optics to the MATCH (v5.5.0) chemical transport model and the SALSA (v1) aerosol microphysics module

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Optical properties for different wavelengths

Figure 1 to 24 show vertical profiles of AOD, single-scattering albedo, and asymmetry parameter at four geographic location (North Italy (45.0°N, 8.5°E), Mediterranean Sea (37.5°N, 5.5°E), Poland (52.6°N, 21.0°E), and North Sea (52.0°N, 2.7°E)), for summer and winter (22 June 2007 12:00 UTC, and 22 December 2007 12:00 UTC), and for 12 different optical wavelengths.

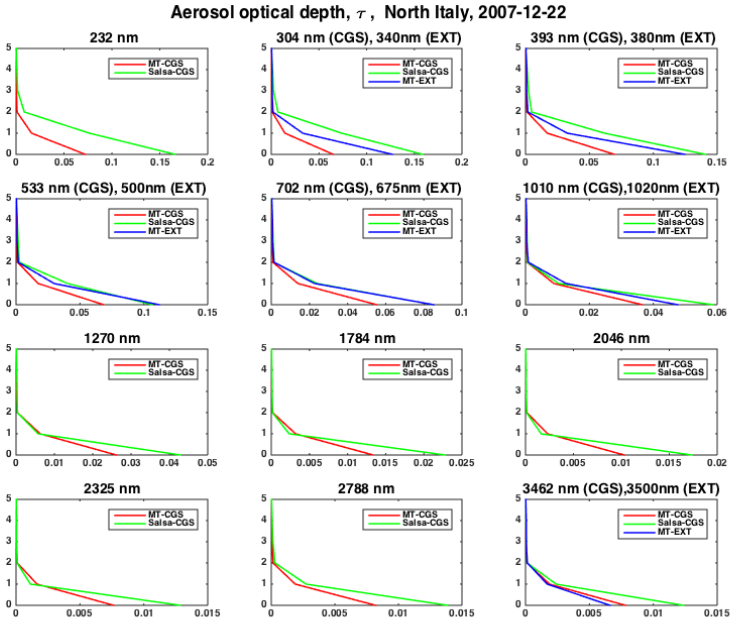

Figure 1: Aerosol optical depth over North Italy at 22-12-2007 for the 12 wavelengths in the CGS optics model and 5 of the 7 wavelengths in the EXT model. The wavelengths do not exactly overlap, but the EXT wavelengths that lies within 40 nm of the CGS wavelength are plotted in the same graph.

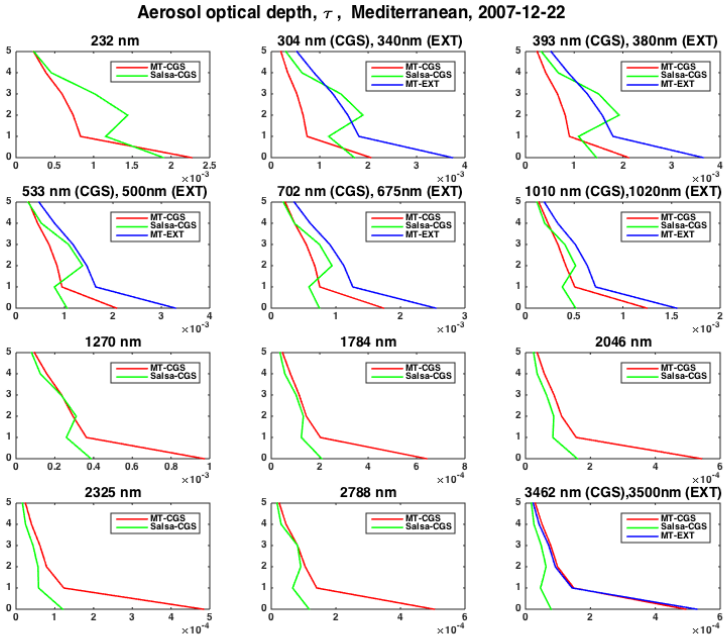

Figure 2: Same as Fig. 1, but over the Mediterranean.

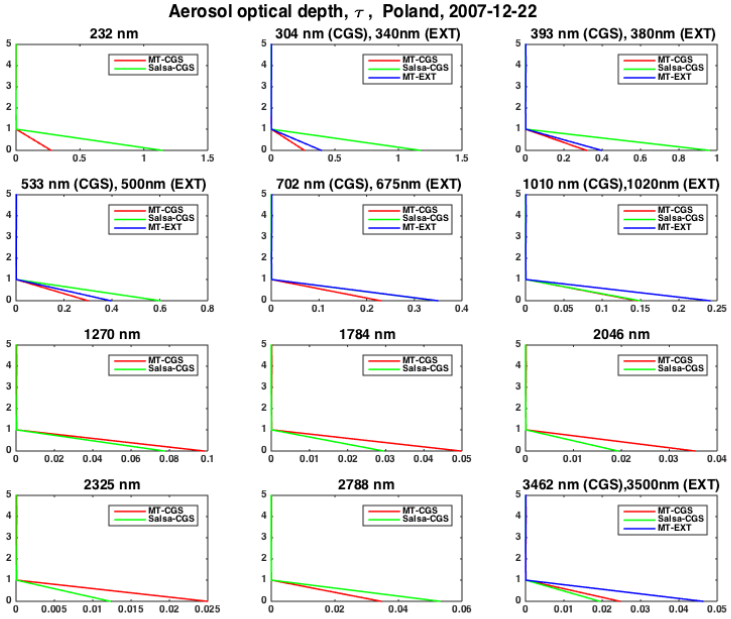

Figure 3: Same as Fig. 1, but over Poland.

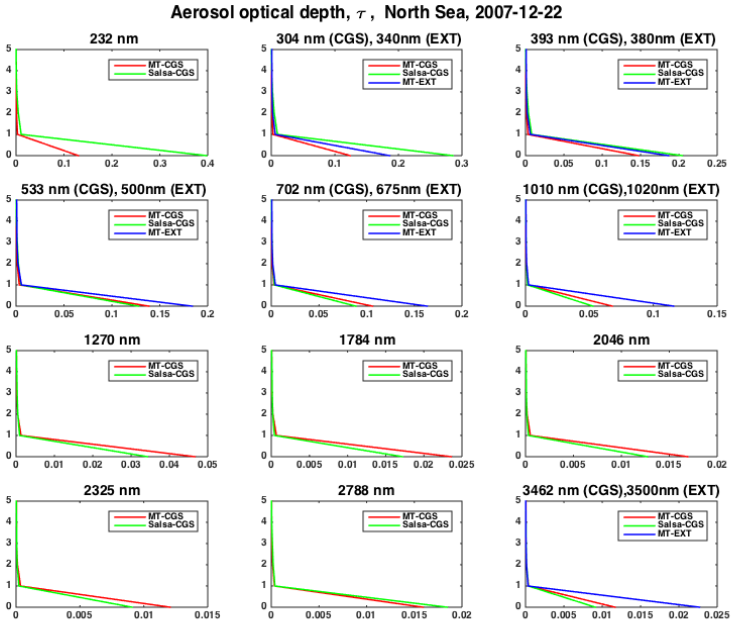

Figure 4: Same as Fig. 1, but over the North Sea

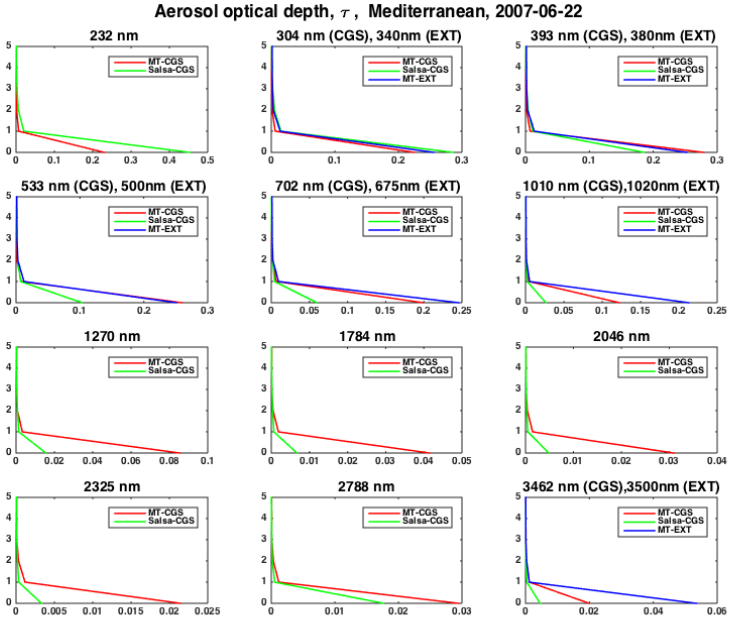

Figure 5: Same as Fig. 1, but 2007-06-22.

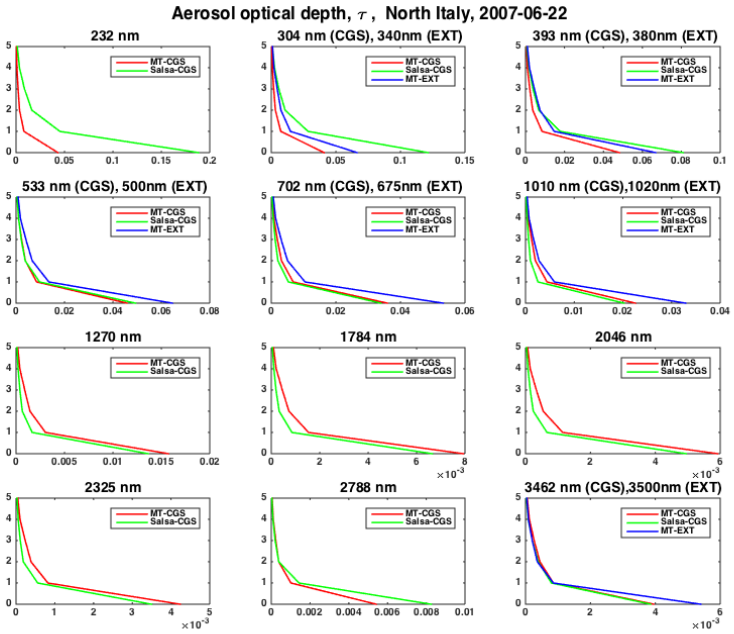

Figure 6: Same as Fig. 1, but 2007-06-22 and over the Mediterranean.

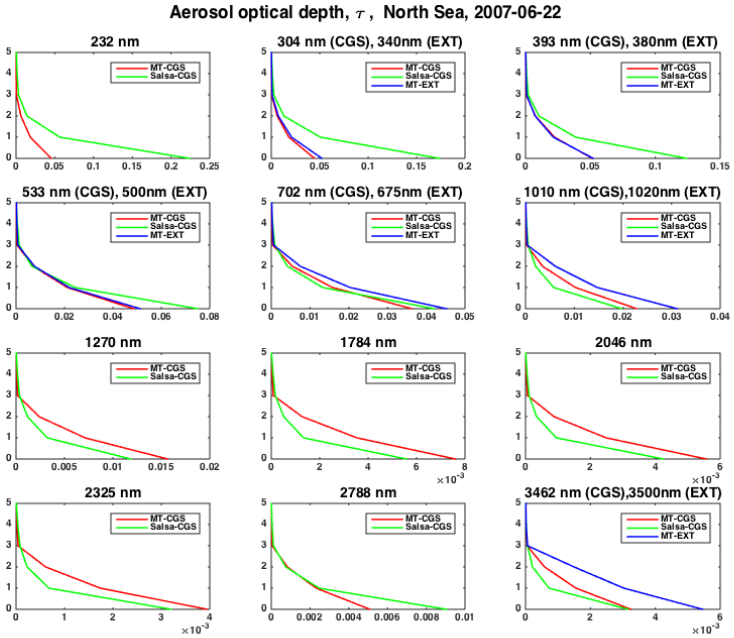

Figure 7: Same as Fig. 1, but 2007-06-22 and over Poland.

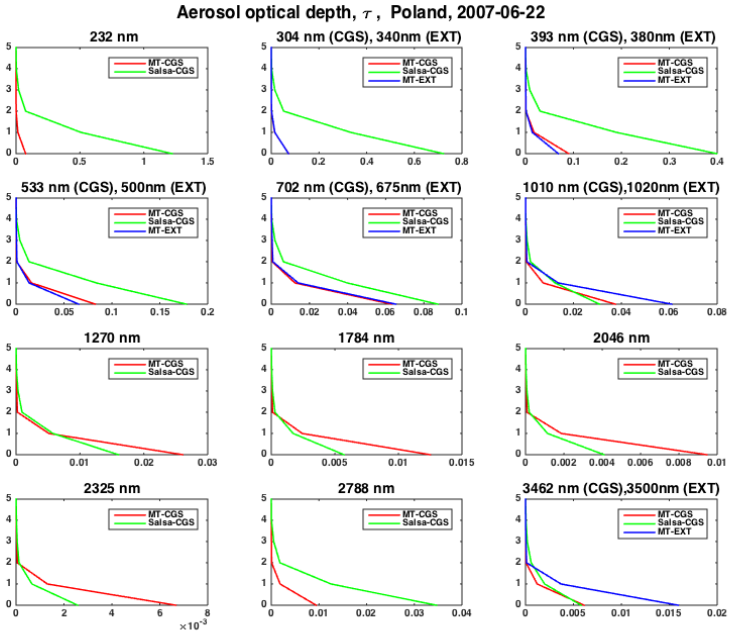

Figure 8: Same as Fig. 1, but 2007-06-22 and over the North sea.

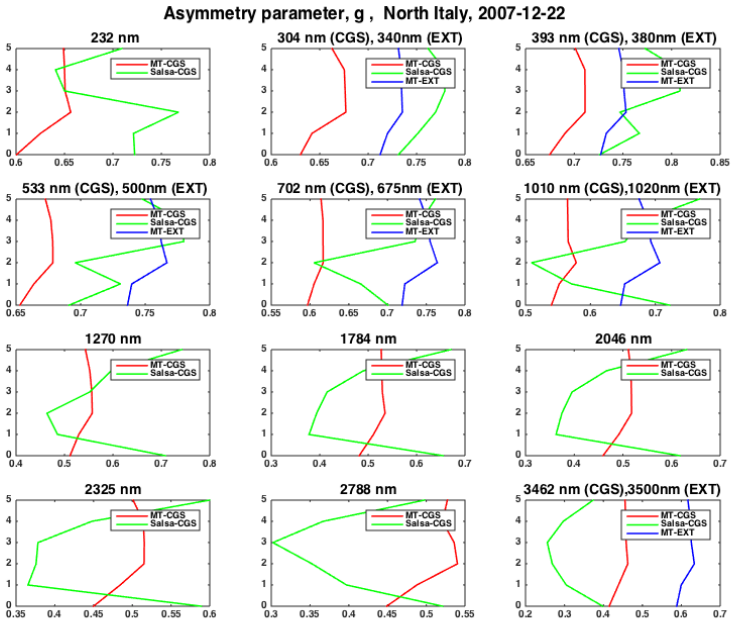

Figure 9: Asymmetry parameter over North Italy at 22-12-2007 for the 12 wavelengths in the CGS optics model and 5 of the 7 wavelengths in the EXT model. The wavelengths do not exactly overlap, but the EXT wavelengths that lies within 40 nm of the CGS wavelength are plotted in the same graph.

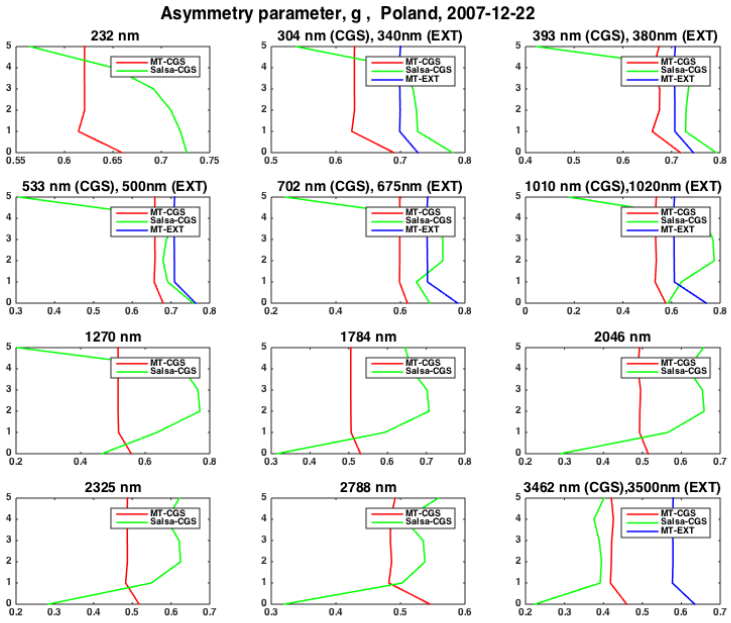

Figure 10: Same as Fig. 9, but over the Mediterranean.

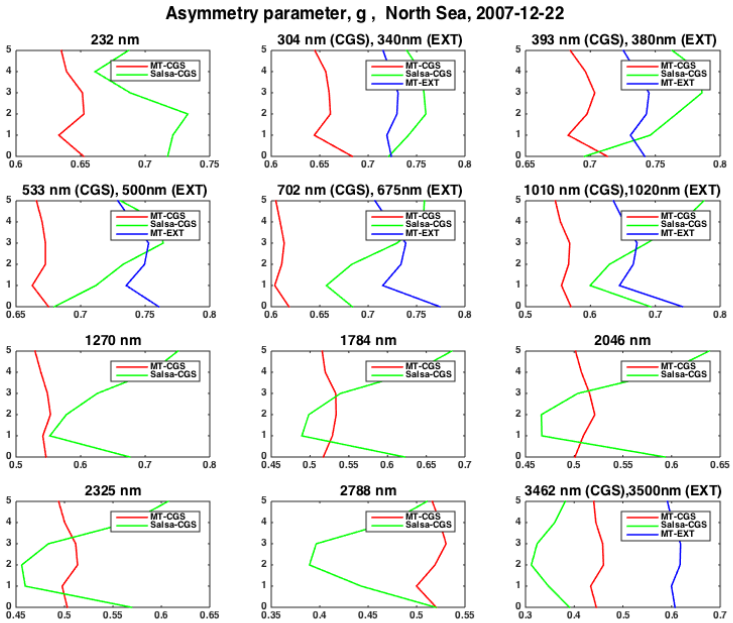

Figure 11: Same as Fig. 9, but over Poland.

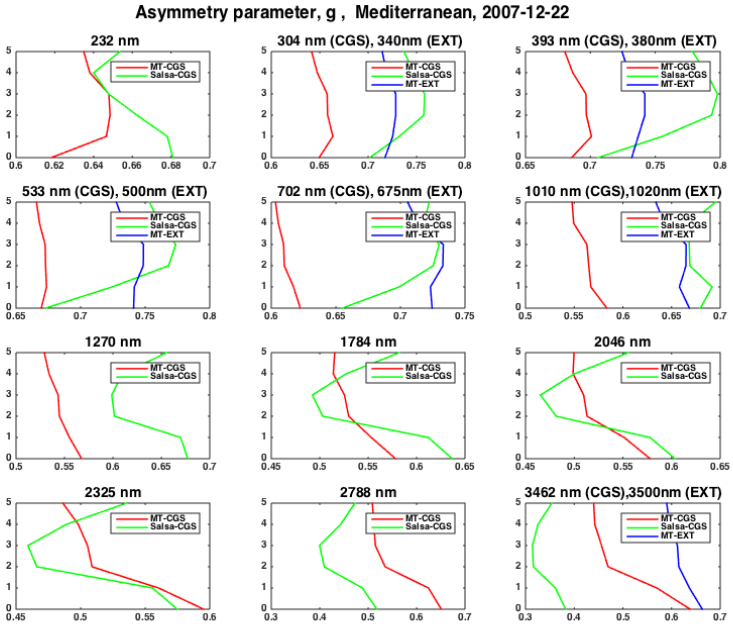

Figure 12: Same as Fig. 9, but over the North sea.

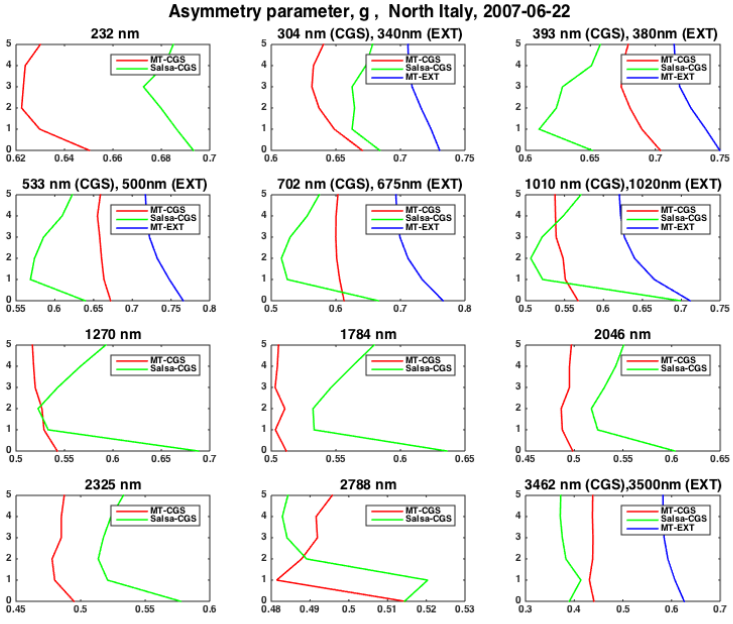

Figure 13: Same as Fig. 9, but 2007-06-22.

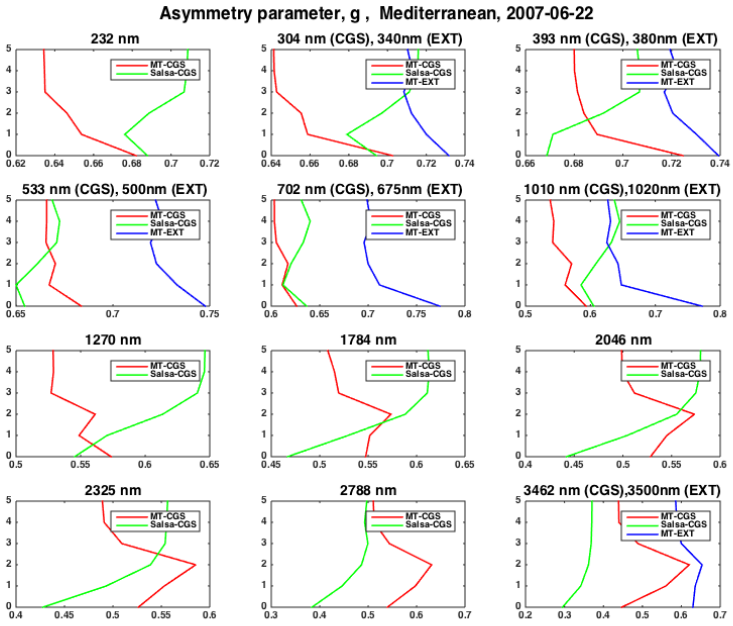

Figure 14: Same as Fig. 9, but 2007-06-22 and over the Mediterranean.

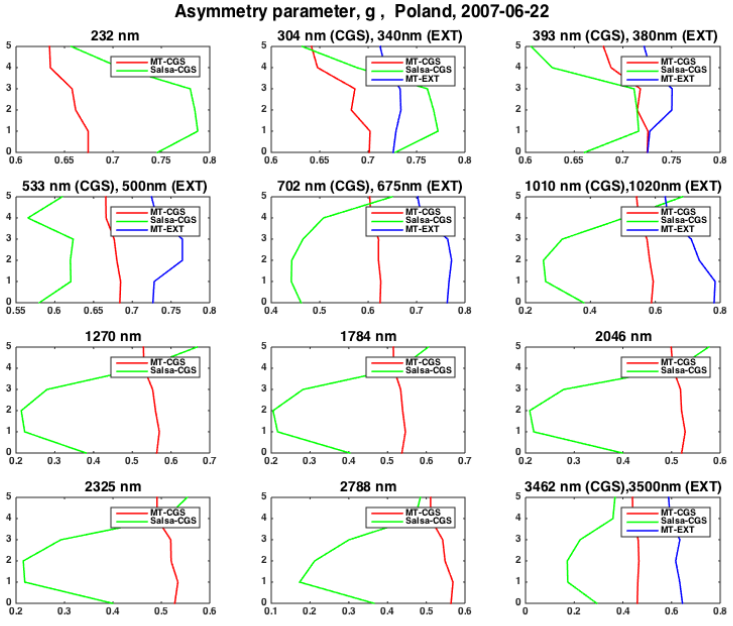

Figure 15: Same as Fig. 9, but 2007-06-22 and over Poland.

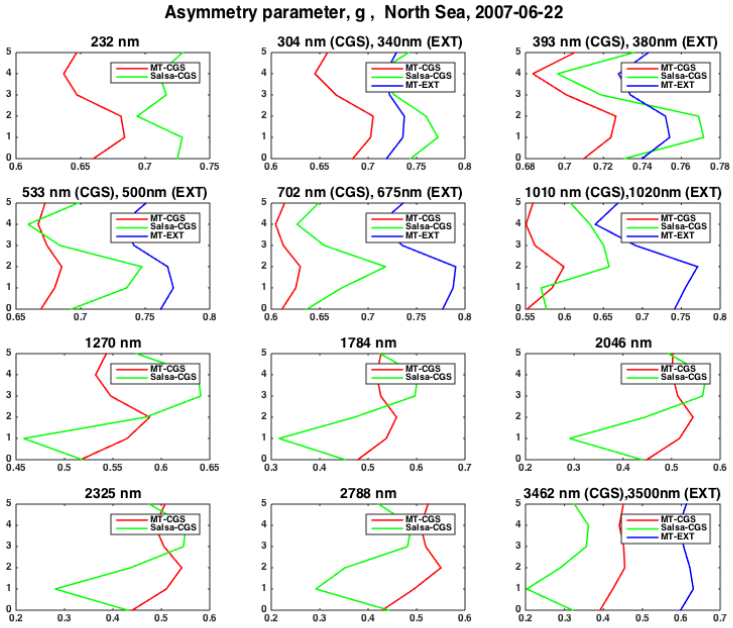

Figure 16: Same as Fig. 9, but 2007-06-22 and over the North sea.

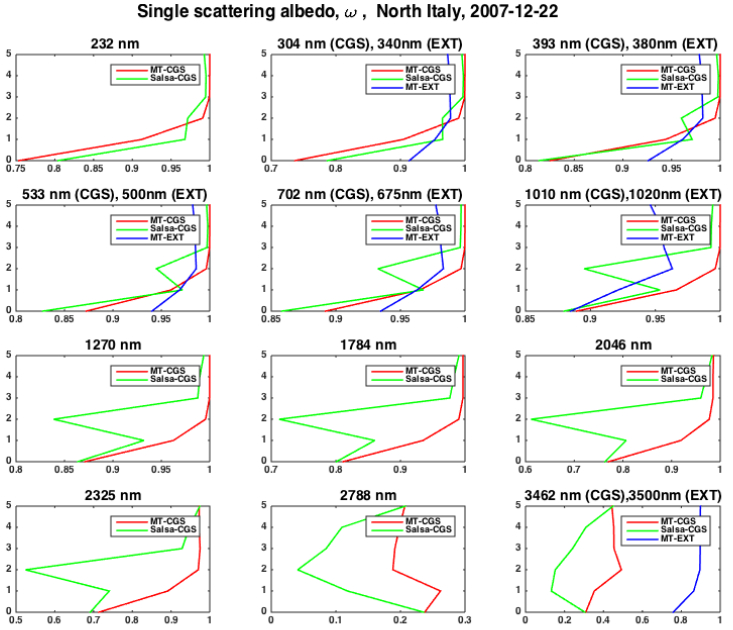

Figure 17: Single scattering albedo over North Italy at 22-12-2007 for the 12 wavelengths in the CGS optics model and 5 of the 7 wavelengths in the EXT model. The wavelengths do not exactly overlap, but the EXT wavelengths that lies within 40 nm of the CGS wavelength are plotted in the same graph.

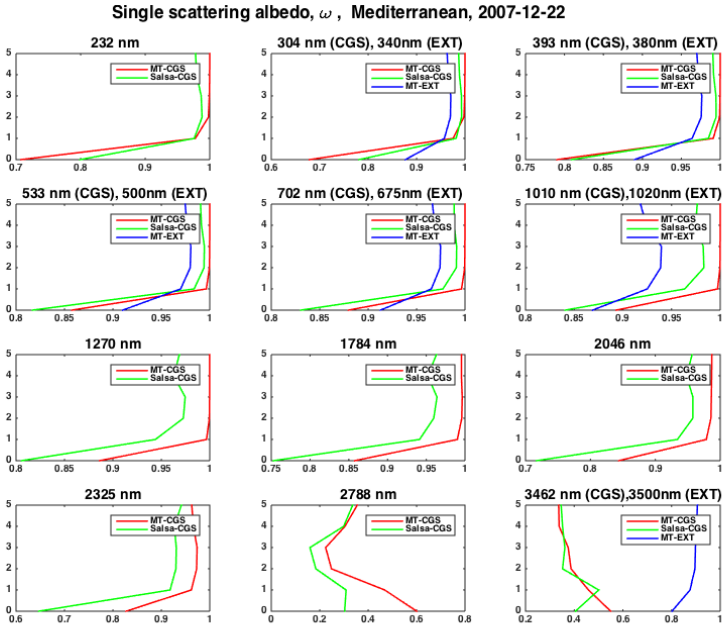

Figure 18: Same as Fig. 17, but over the Mediterranean.

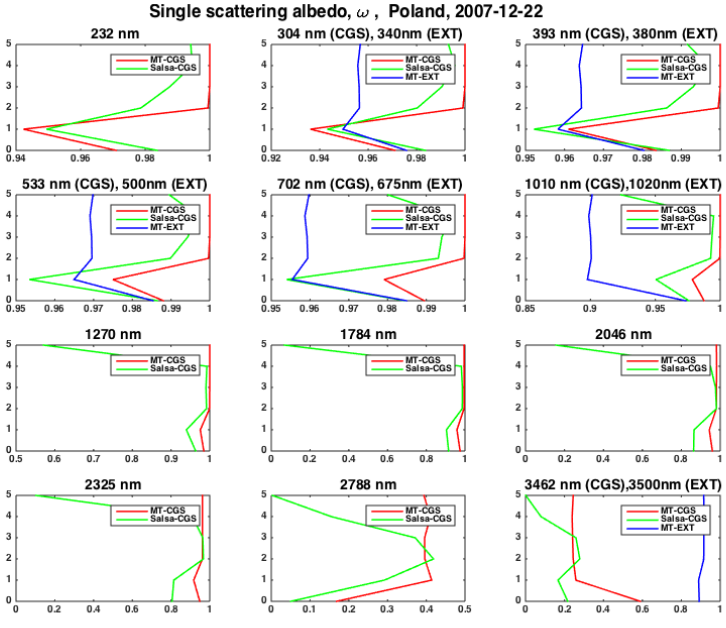

Figure 19: Same as Fig. 17, but over Poland.

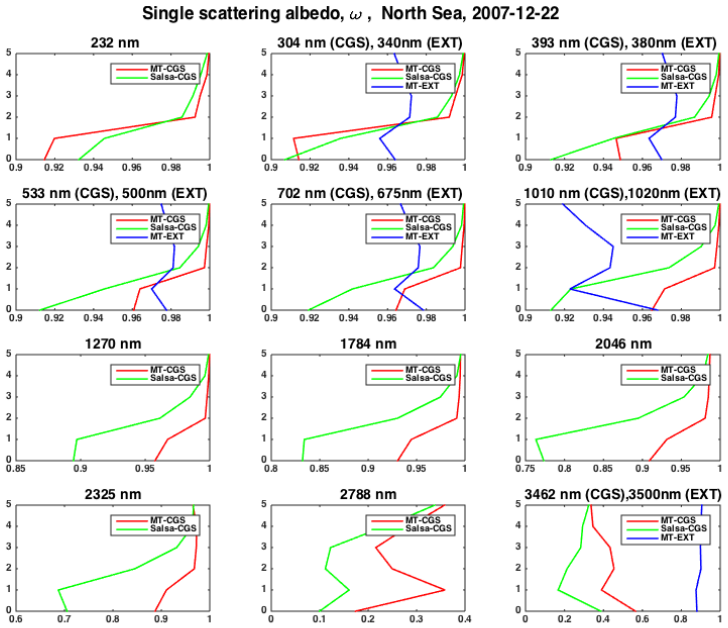

Figure 20: Same as Fig. 17, but over the North sea.

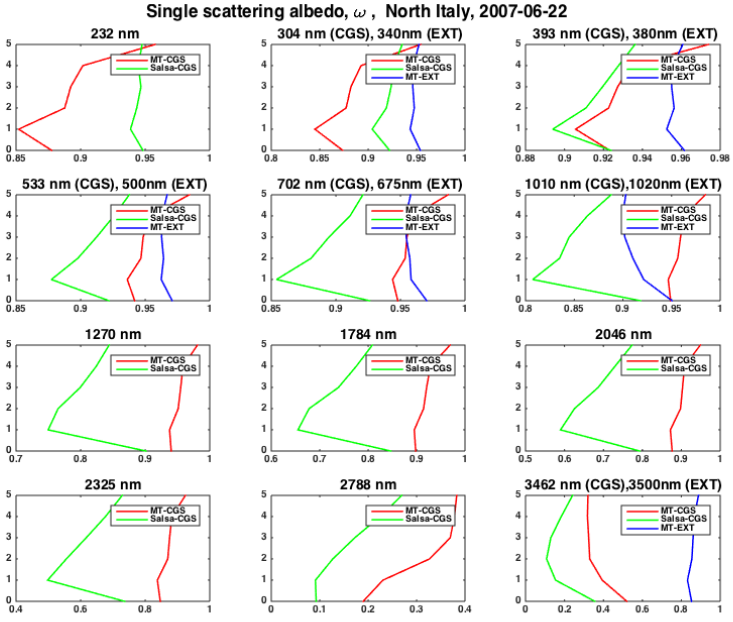

Figure 21: Same as Fig. 17, but 2007-06-22.

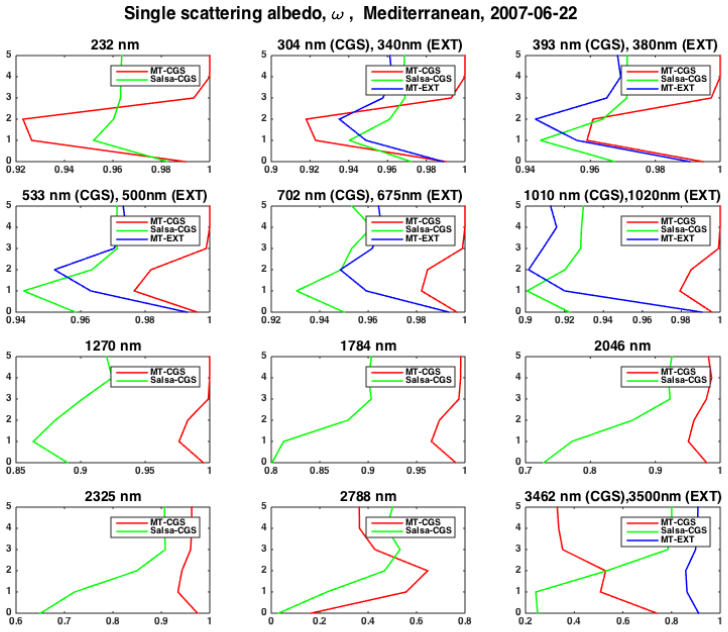

Figure 22: Same as Fig. 17, but 2007-06-22 and over the Mediterranean.

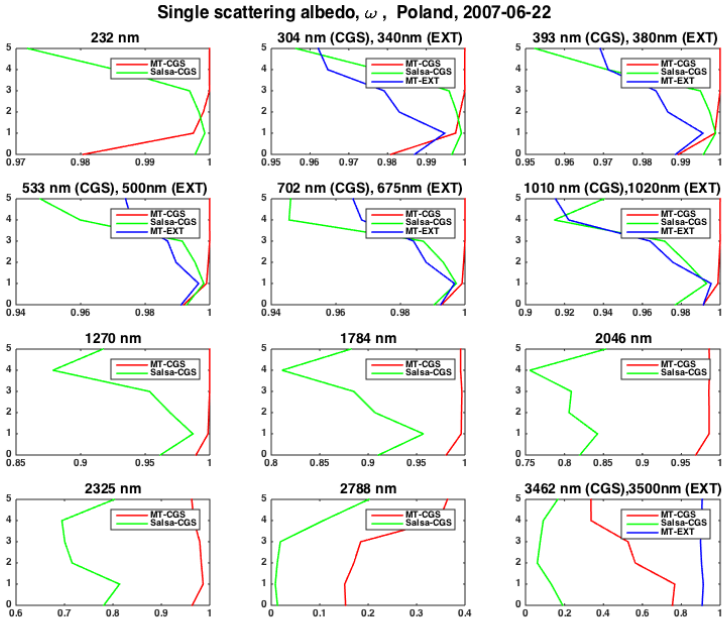

Figure 23: Same as Fig. 17, but 2007-06-22 and over Poland.

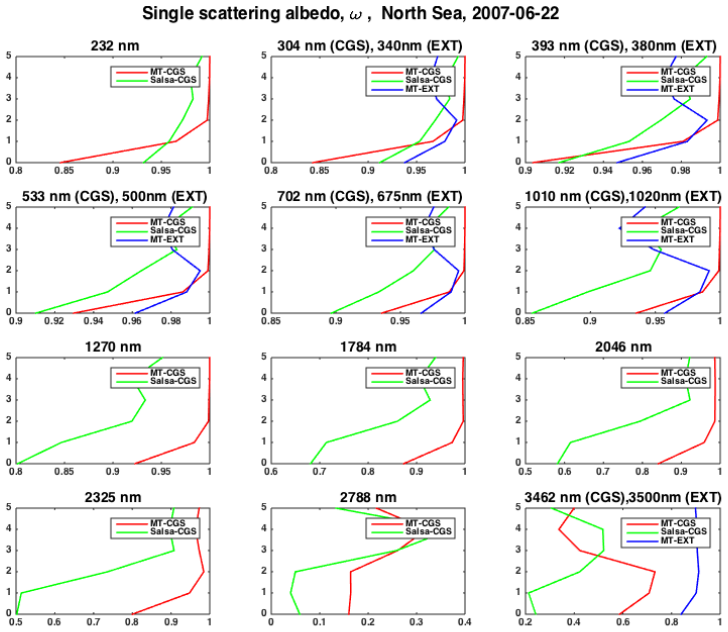

Figure 24: Same as Fig. 17, but 2007-06-22 and over the North sea.