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Microphysical properties of refractory black carbon aerosols for different air masses at a central European background site

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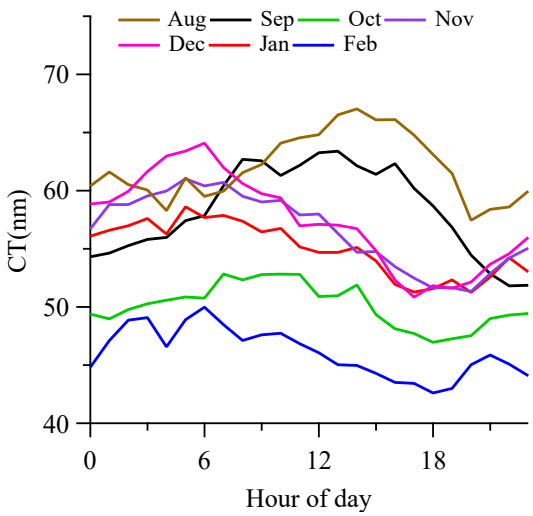

Figure.S1 Diurnal variation of rBC mass concentration and coating thickness of different months.

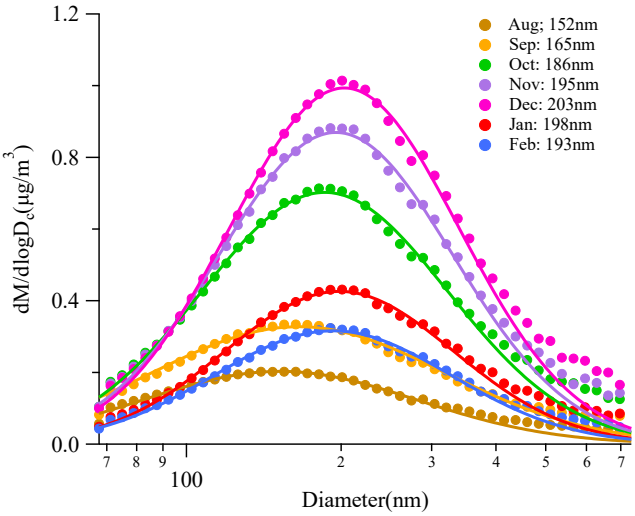

Figure.S2 rBC mass size distribution of different months.

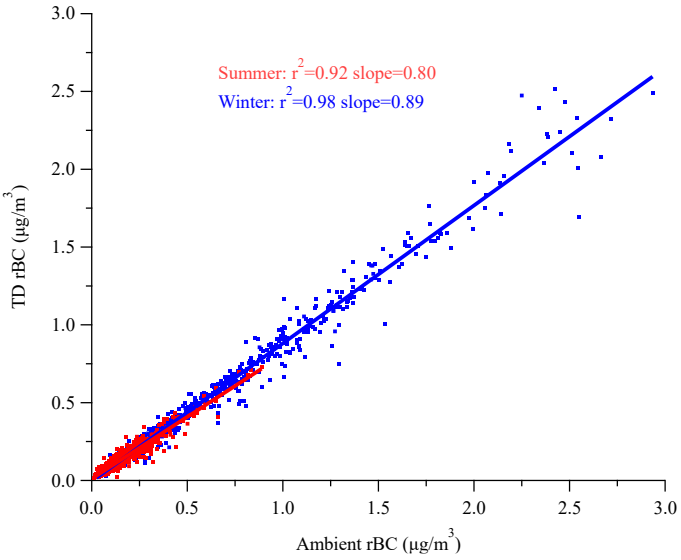

Figure.S3 Correlation of rBC mass concentration between TD and ambient sample.

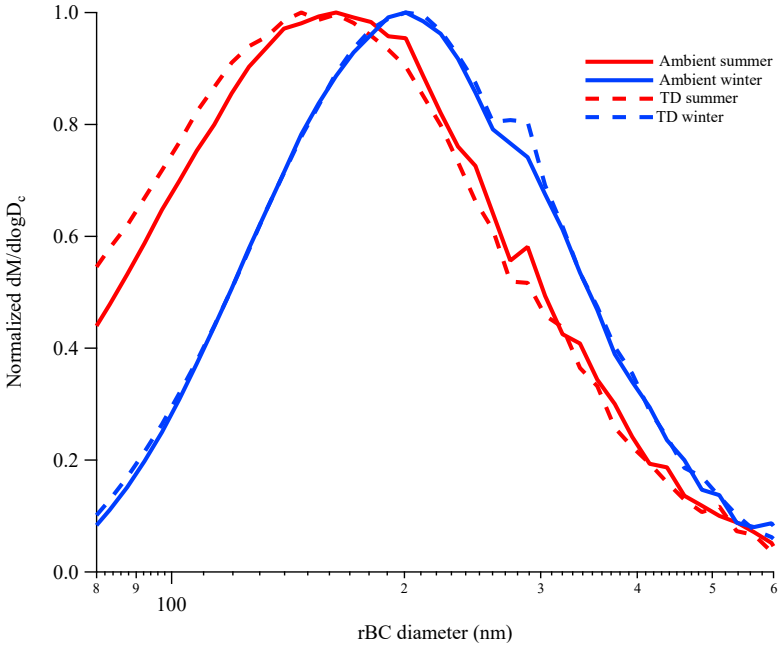

Figure.S4 Mass size distribution of rBC core from ambient and TD sample in summer and winter

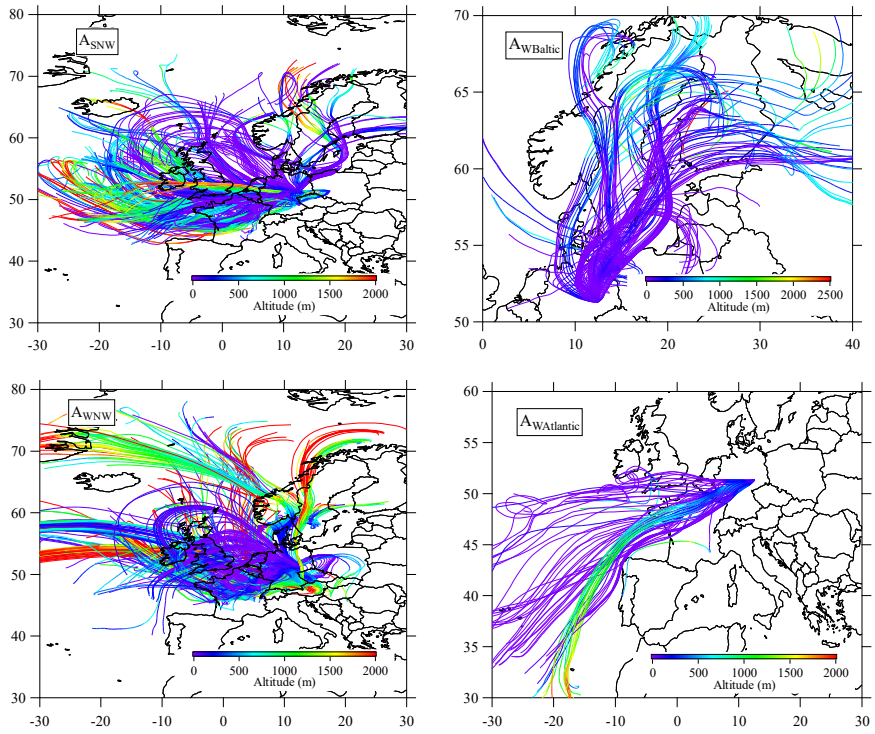

Figure.S5 Track trajectory traces with altitude for each air mass in winter and summer.

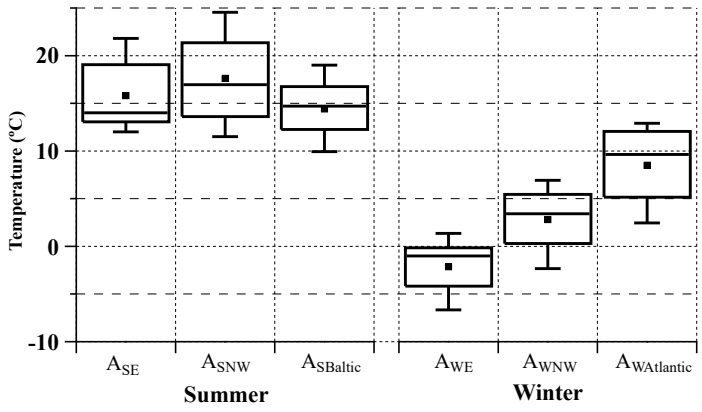

Figure.S6 Statistical analysis of temperature for each air mass in summer and winter.

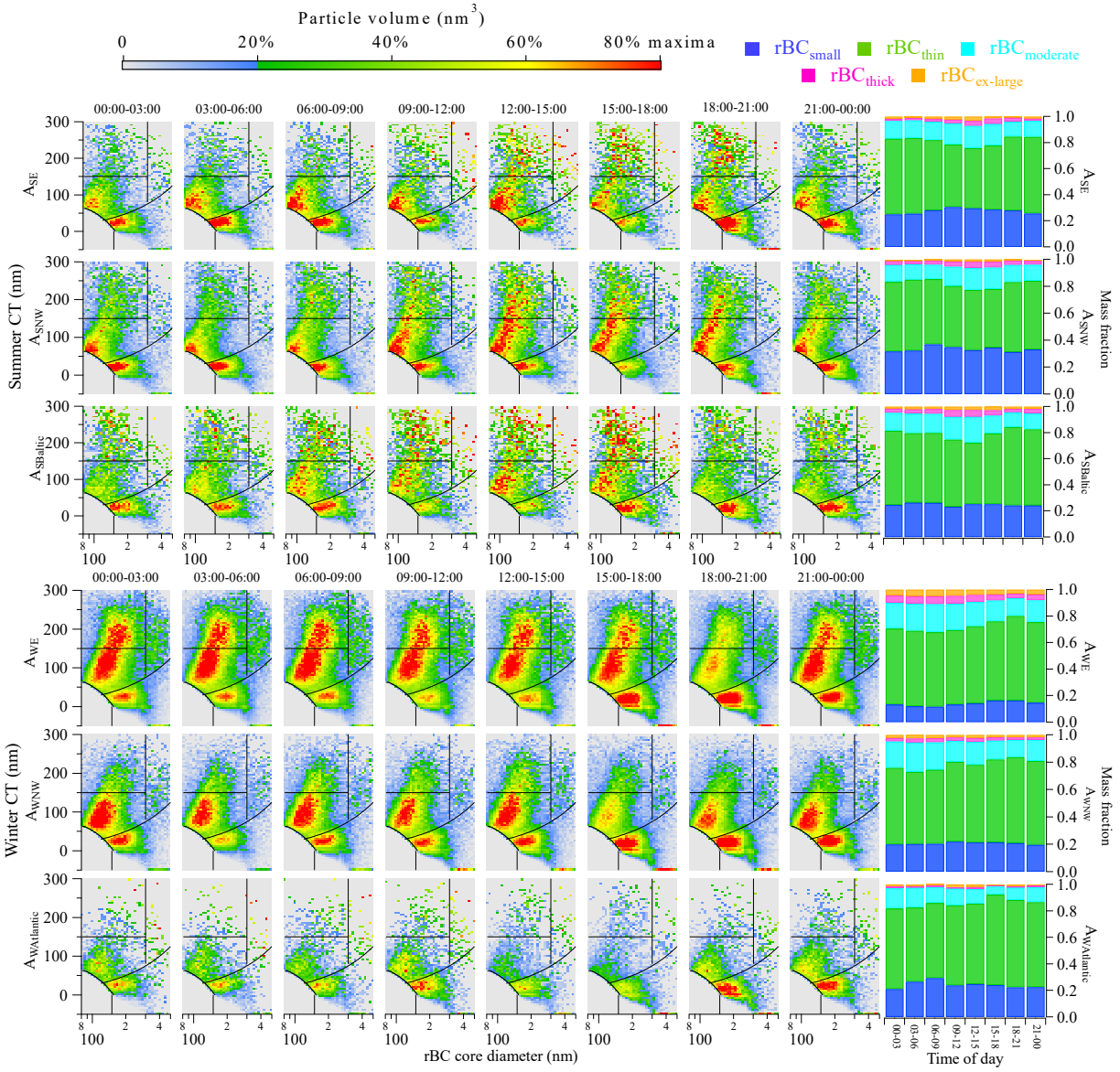

Figure S7: Diurnal variation of size-resolved coating thickness and mass fraction of each type of rBC in the ambient sample. The panels for each air mass, from left to right, represent time intervals of 00:00–03:00, 03:00–06:00, 06:00–09:00, 09:00–12:00, 12:00–15:00, 15:00–187:00, 18:00–21:00, and 21:00–00:00. The color scale represents the total particle volume, with red set at 80% of the maximum value. In some panels, the red color scale was adjusted below 80% of the maximum to minimize the impact of exceptionally large values.

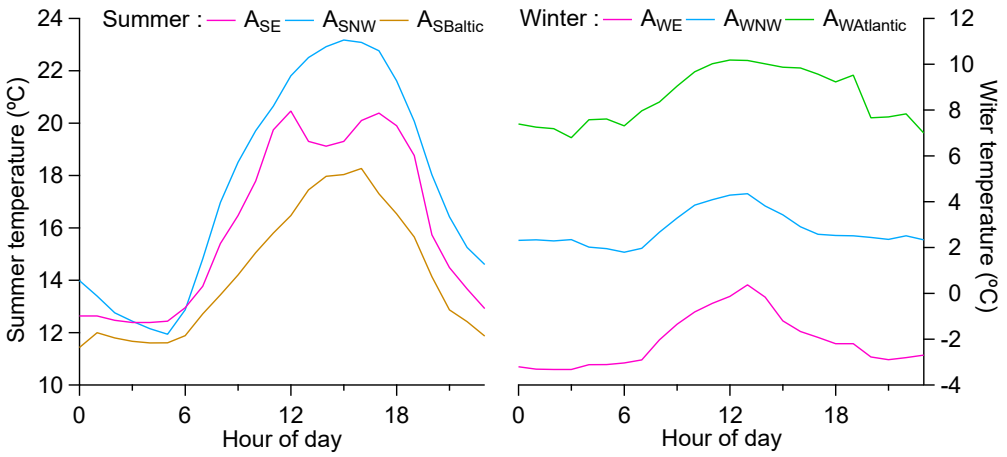

Figure.S8 Diurnal variation of temperature for each air mass in summer and winter.

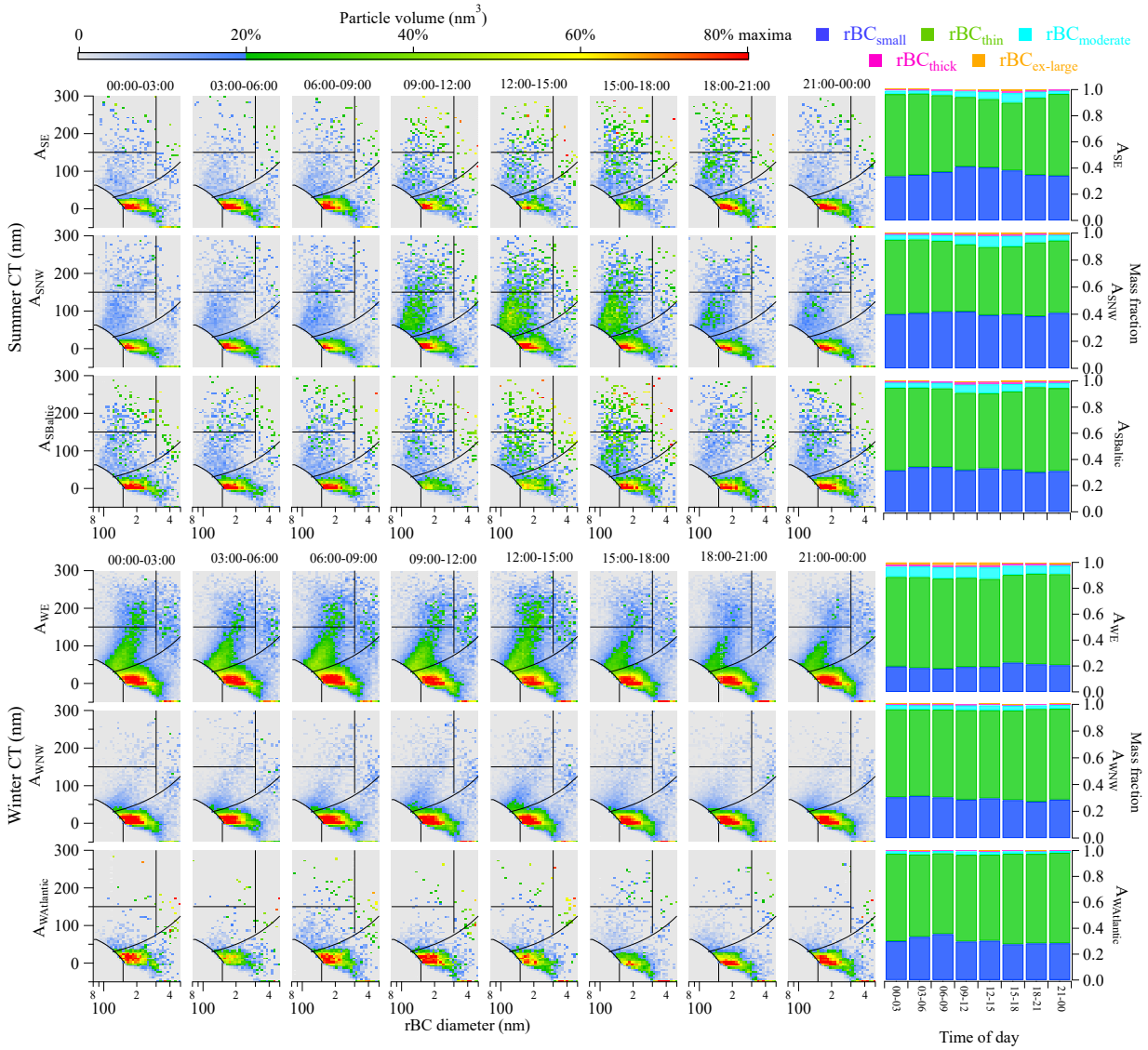

Figure.S9 Diurnal variation of size-resolved coating thickness and mass fraction of each type of rBC in the TD sample.