Comparison of Bromocarbon Measurements from the PEM-B, PEM-TROPICS-A and PEM-TROPICS-B Campaigns with an ECHAM5/MESSY Simulation

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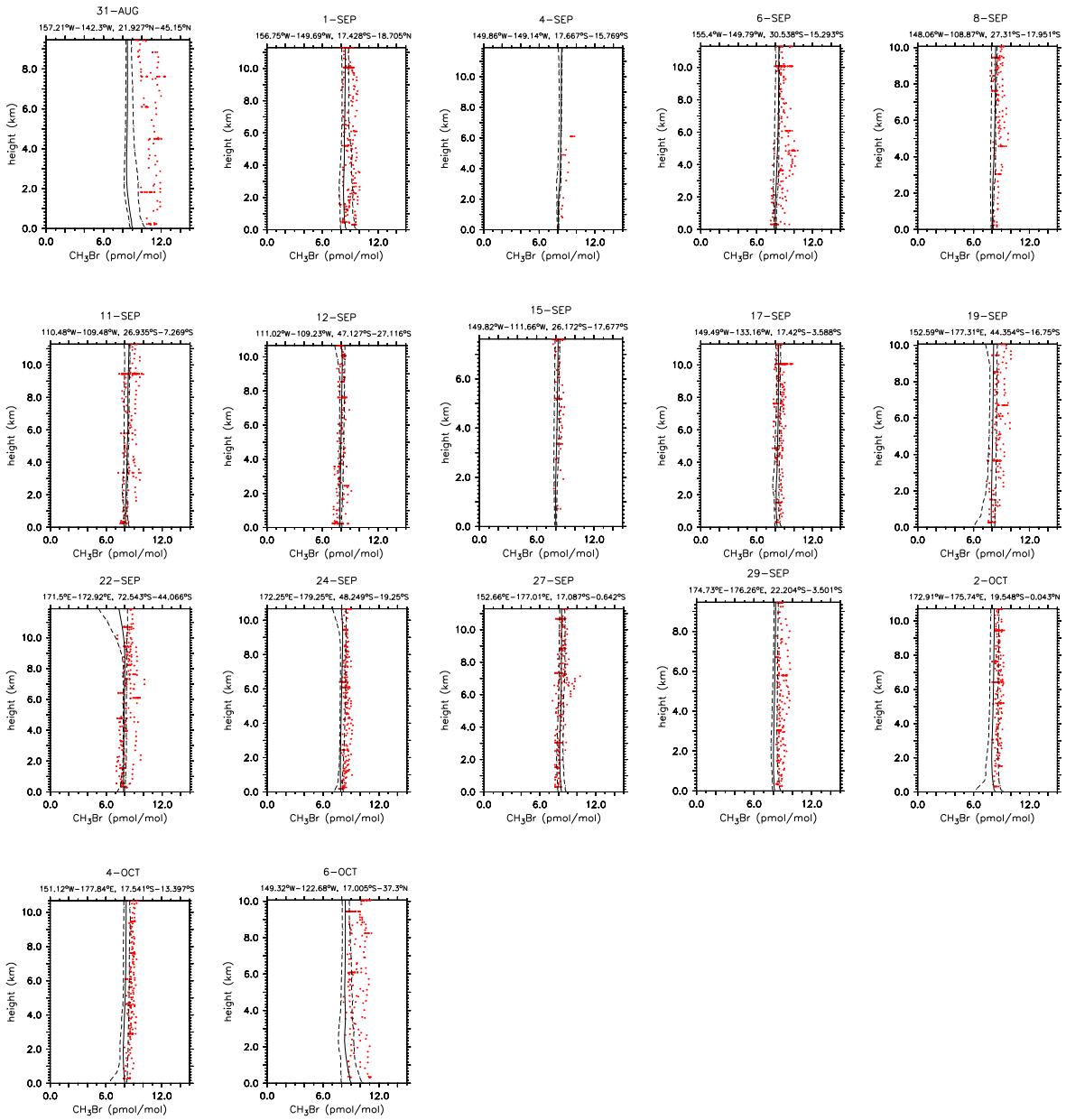

Abbildung 1: CH_3Br vertical profiles (pmol/mol) as measured during the PEM-Tropics-A DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum CH_3Br mixing ratios during the whole campaign period.

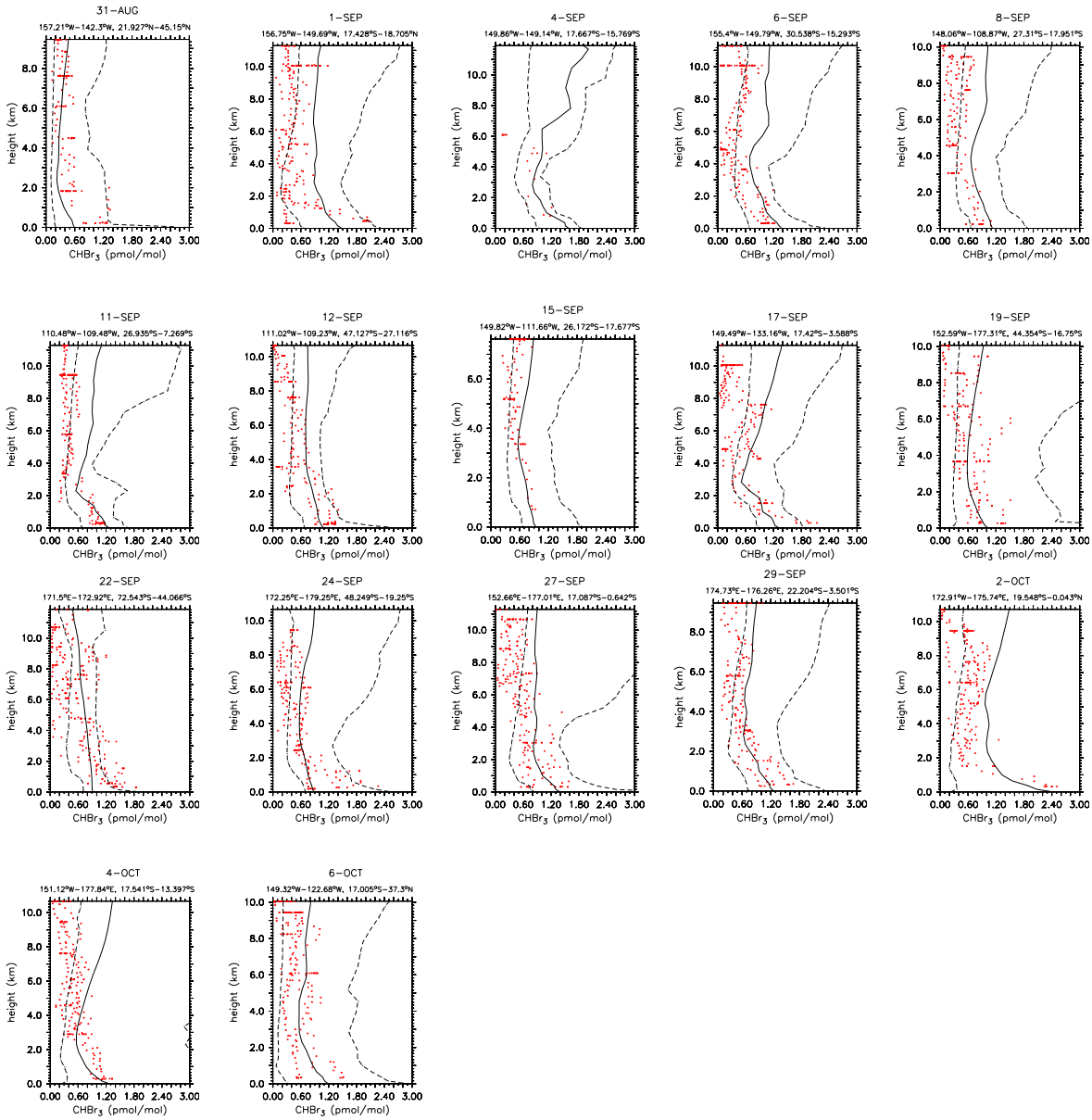

Abbildung 2: $CHBr_3$ vertical profiles (pmol/mol) as measured during the PEM-Tropics-A DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum $CHBr_3$ mixing ratios during the whole campaign period.

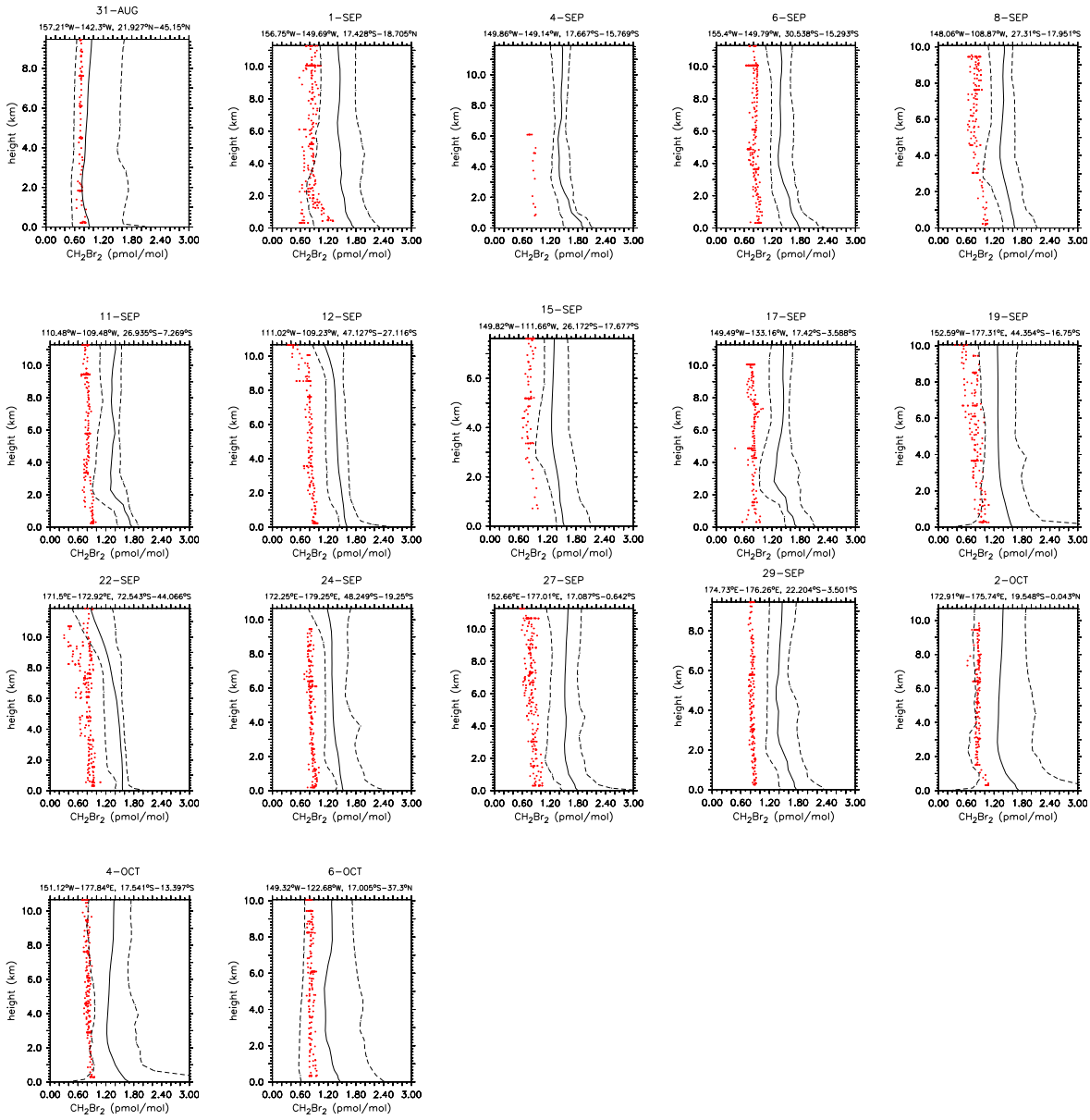

Abbildung 3: CH_2Br_2 vertical profiles (pmol/mol) as measured during the PEM-Tropics-A DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum CH_2Br_2 mixing ratios during the whole campaign period.

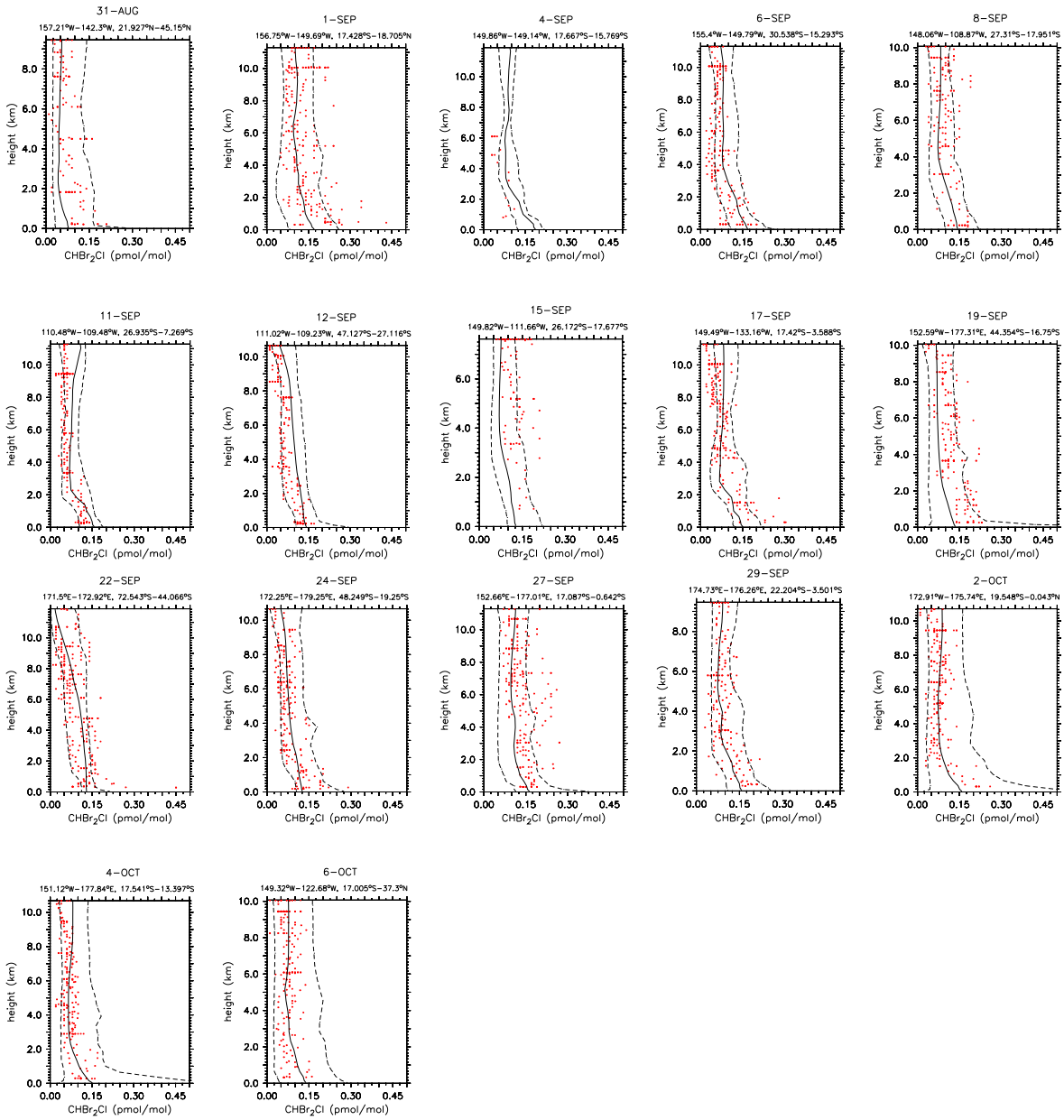

Abbildung 4: $CHClBr_2$ vertical profiles (pmol/mol) as measured during the PEM-Tropics-A DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum $CHClBr_2$ mixing ratios during the whole campaign period.

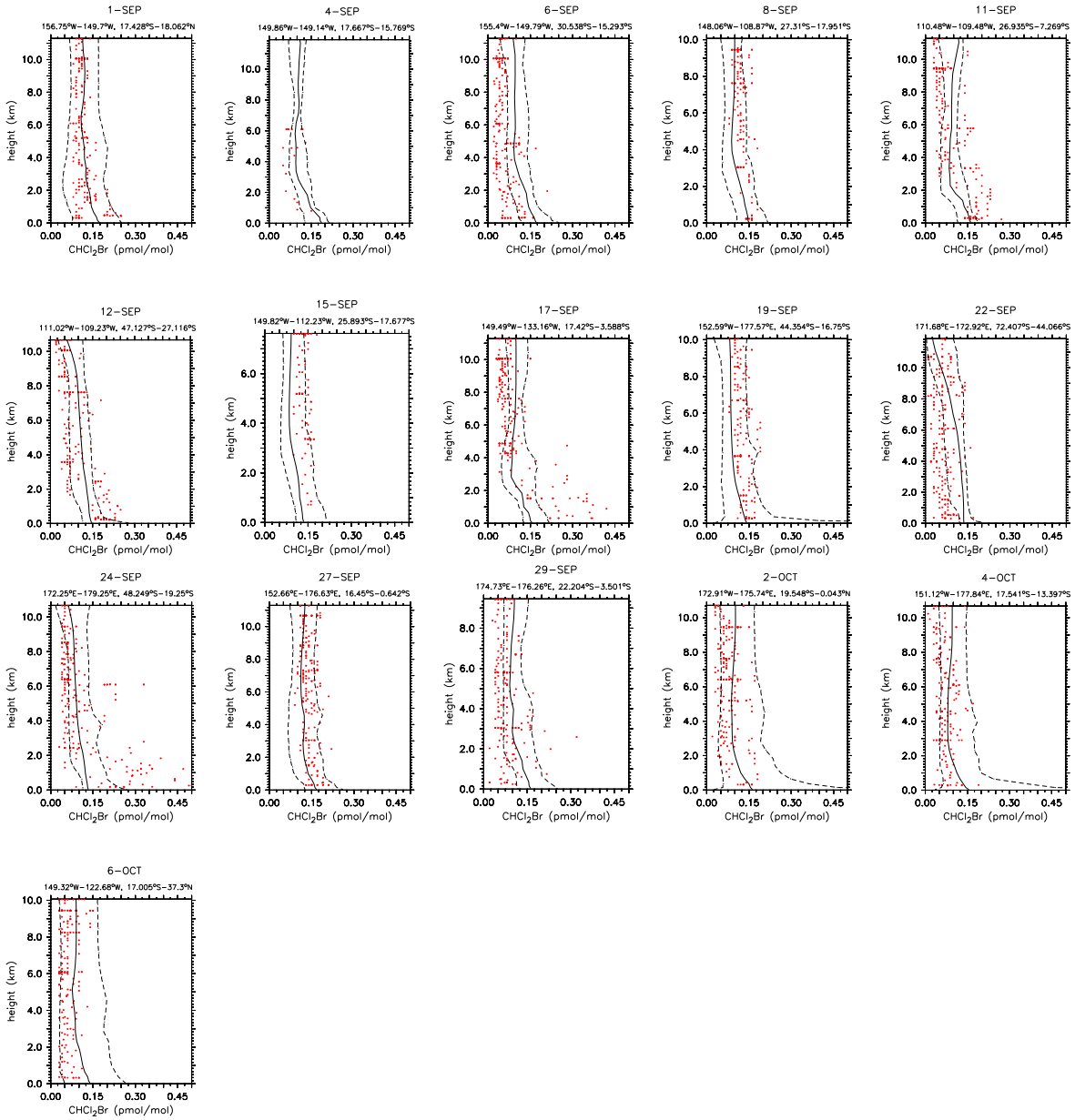

Abbildung 5: $CHCl_2Br$ vertical profiles (pmol/mol) as measured during the PEM-Tropics-A DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum $CHCl_2Br$ mixing ratios during the whole campaign period.

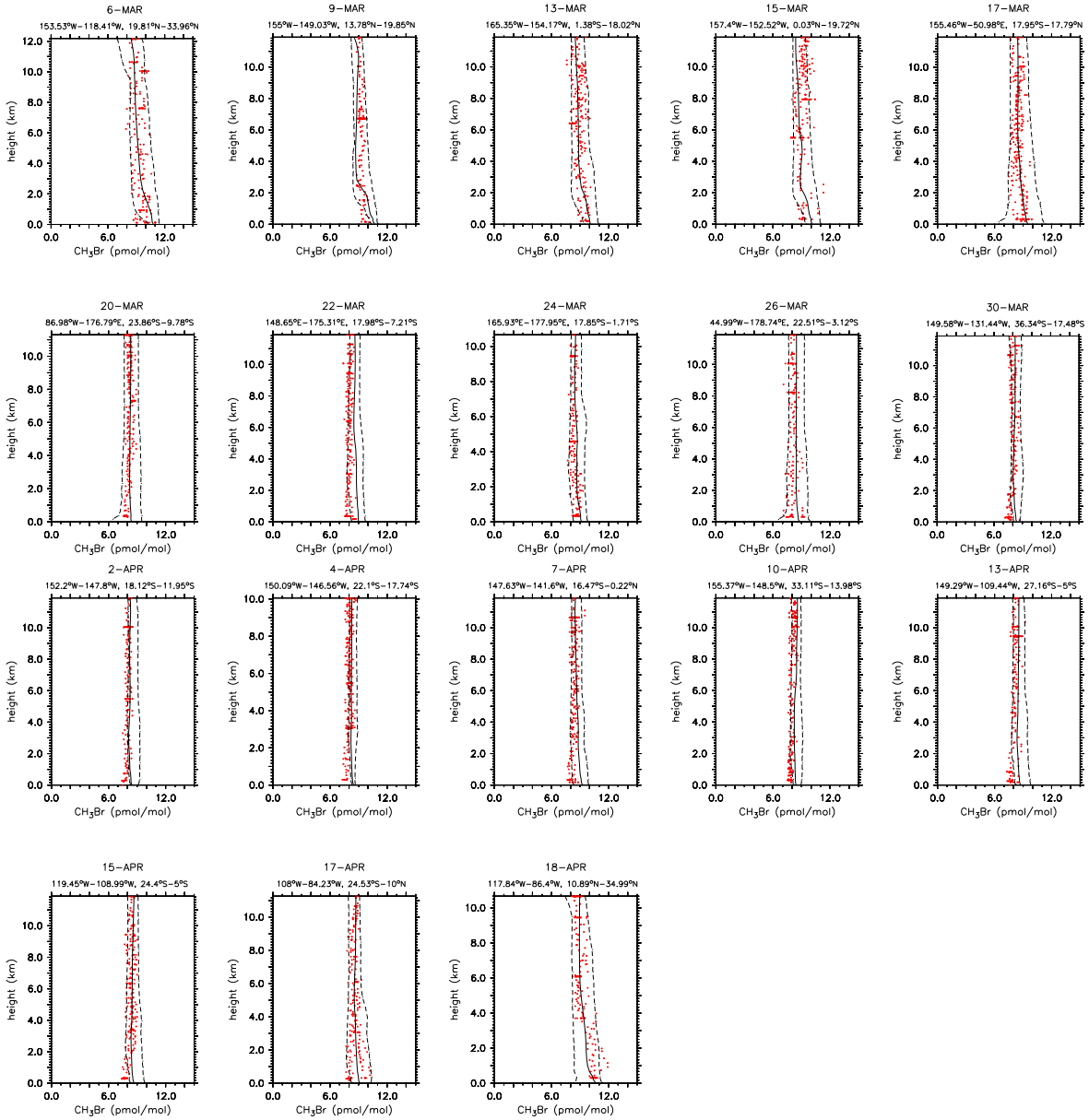

Abbildung 6: CH_3Br vertical profiles (pmol/mol) as measured during the PEM-Tropics-B DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum CH_3Br mixing ratios during the whole campaign period.

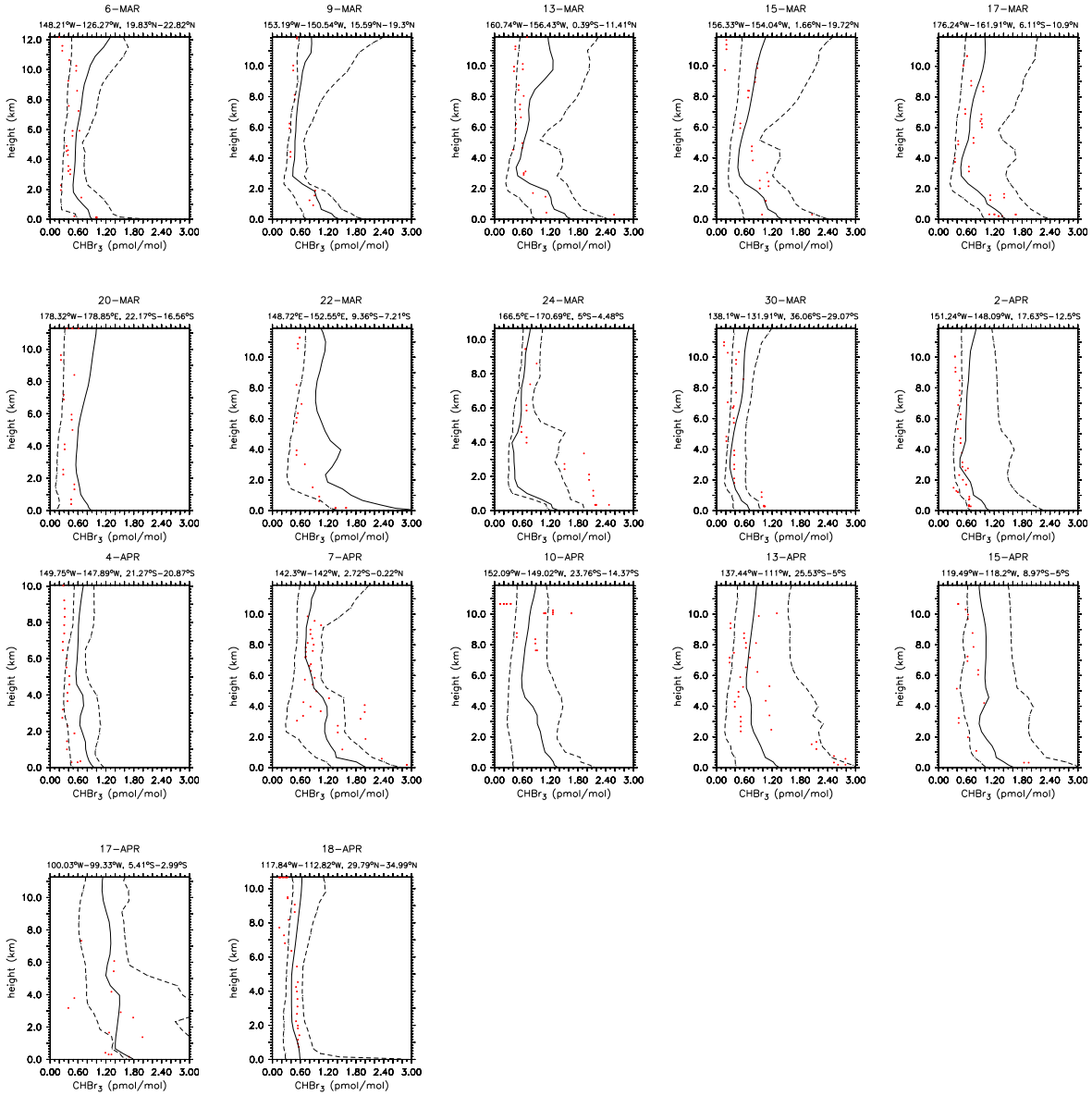

Abbildung 7: $CHBr_3$ vertical profiles (pmol/mol) as measured during the PEM-Tropics-B DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum $CHBr_3$ mixing ratios during the whole campaign period.

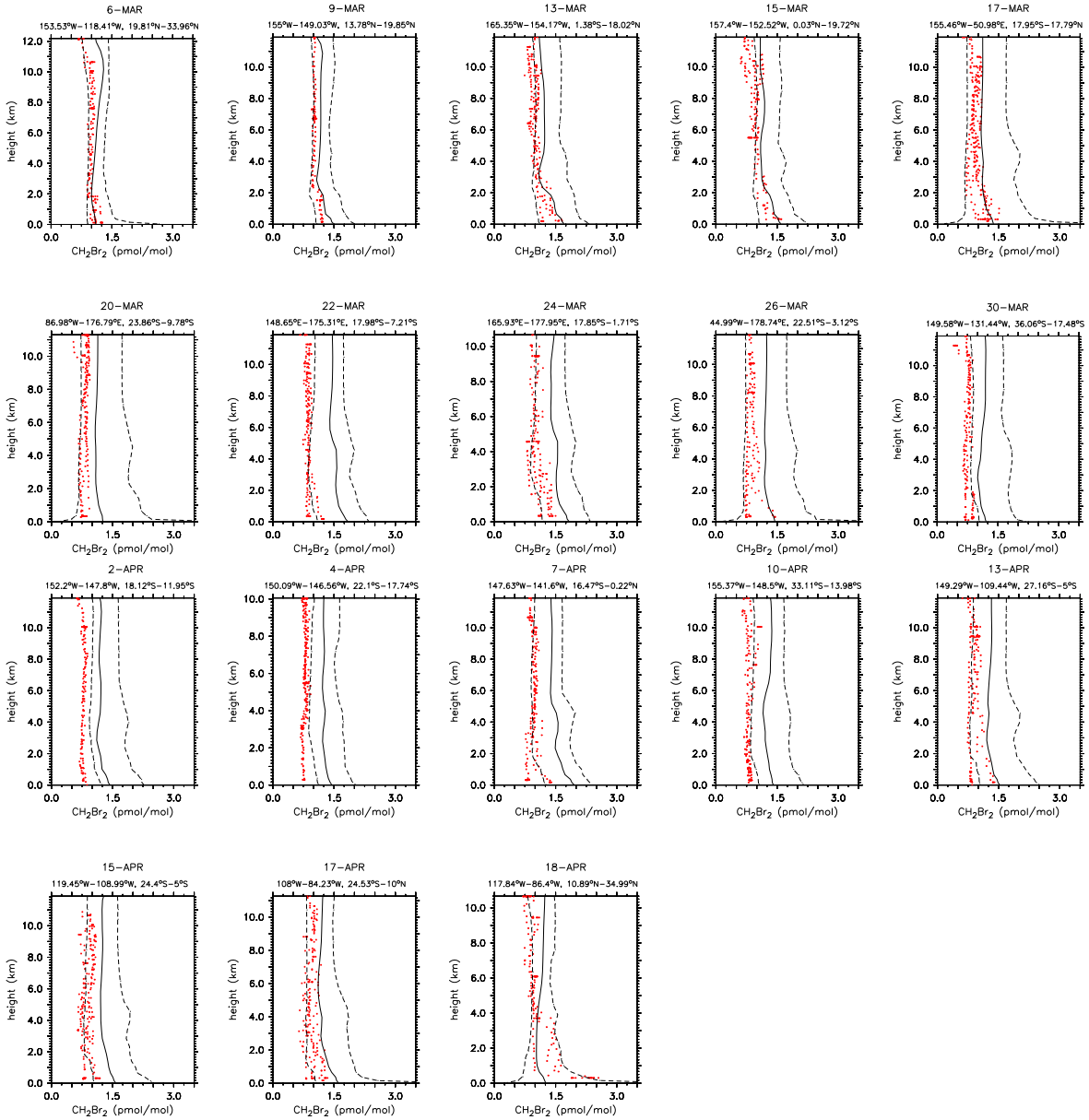

Abbildung 8: CH_2Br_2 vertical profiles (pmol/mol) as measured during the PEM-Tropics-B DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum CH_2Br_2 mixing ratios during the whole campaign period.

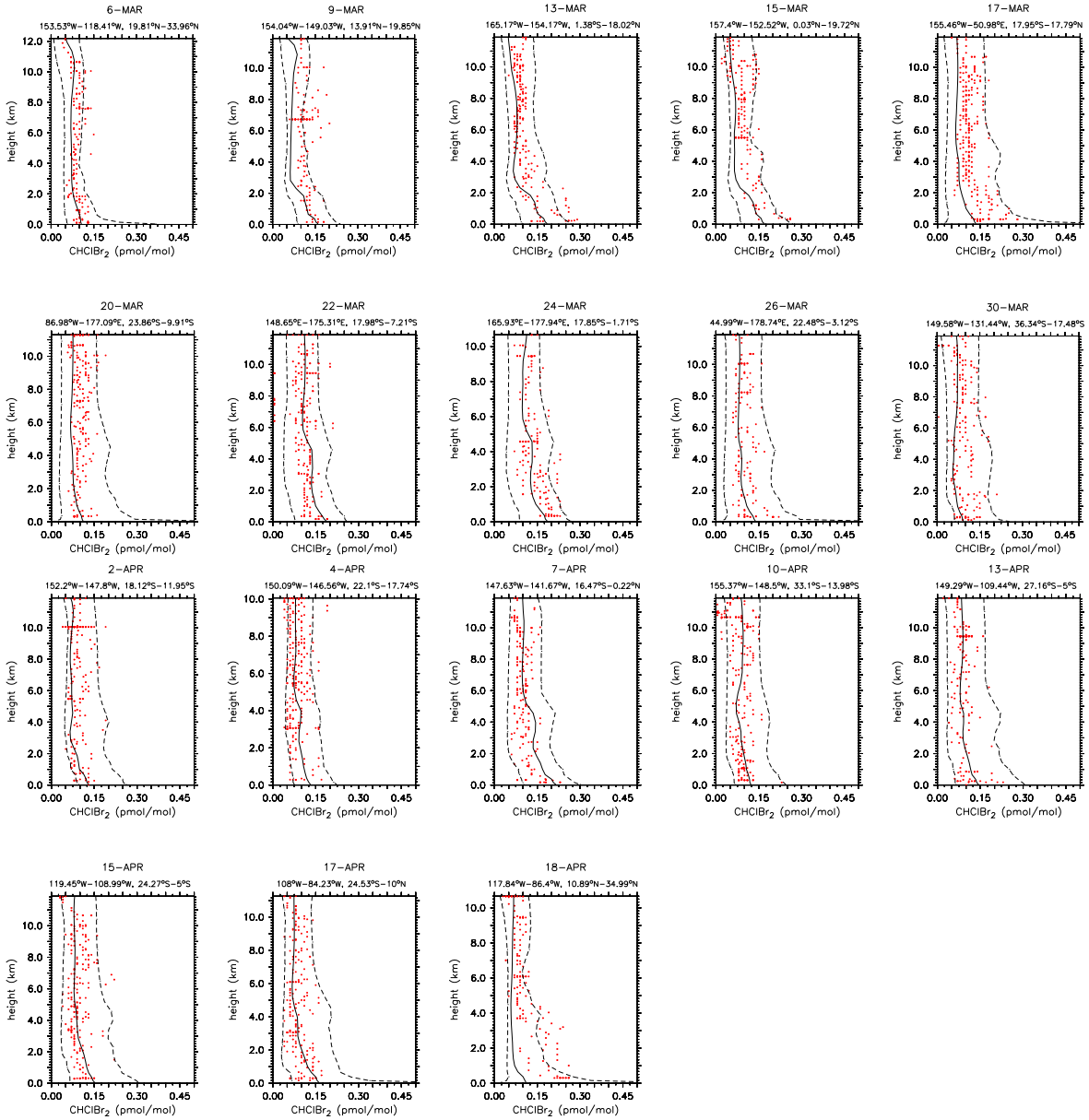

Abbildung 9: $CHClBr_2$ vertical profiles (pmol/mol) as measured during the PEM-Tropics-B DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum $CHClBr_2$ mixing ratios during the whole campaign period.

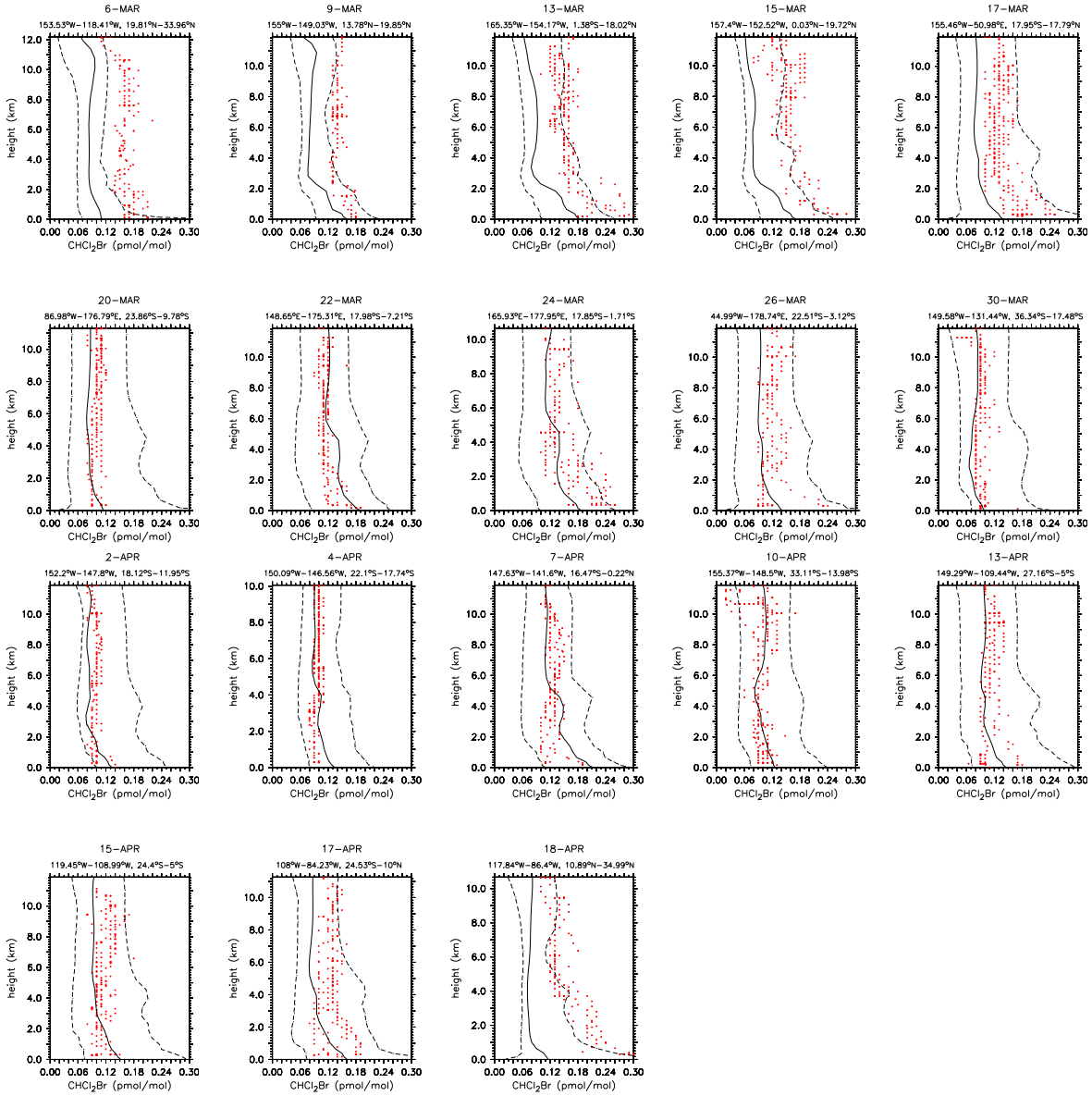

Abbildung 10: $CHCl_2Br$ vertical profiles (pmol/mol) as measured during the PEM-Tropics-B DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum $CHCl_2Br$ mixing ratios during the whole campaign period.

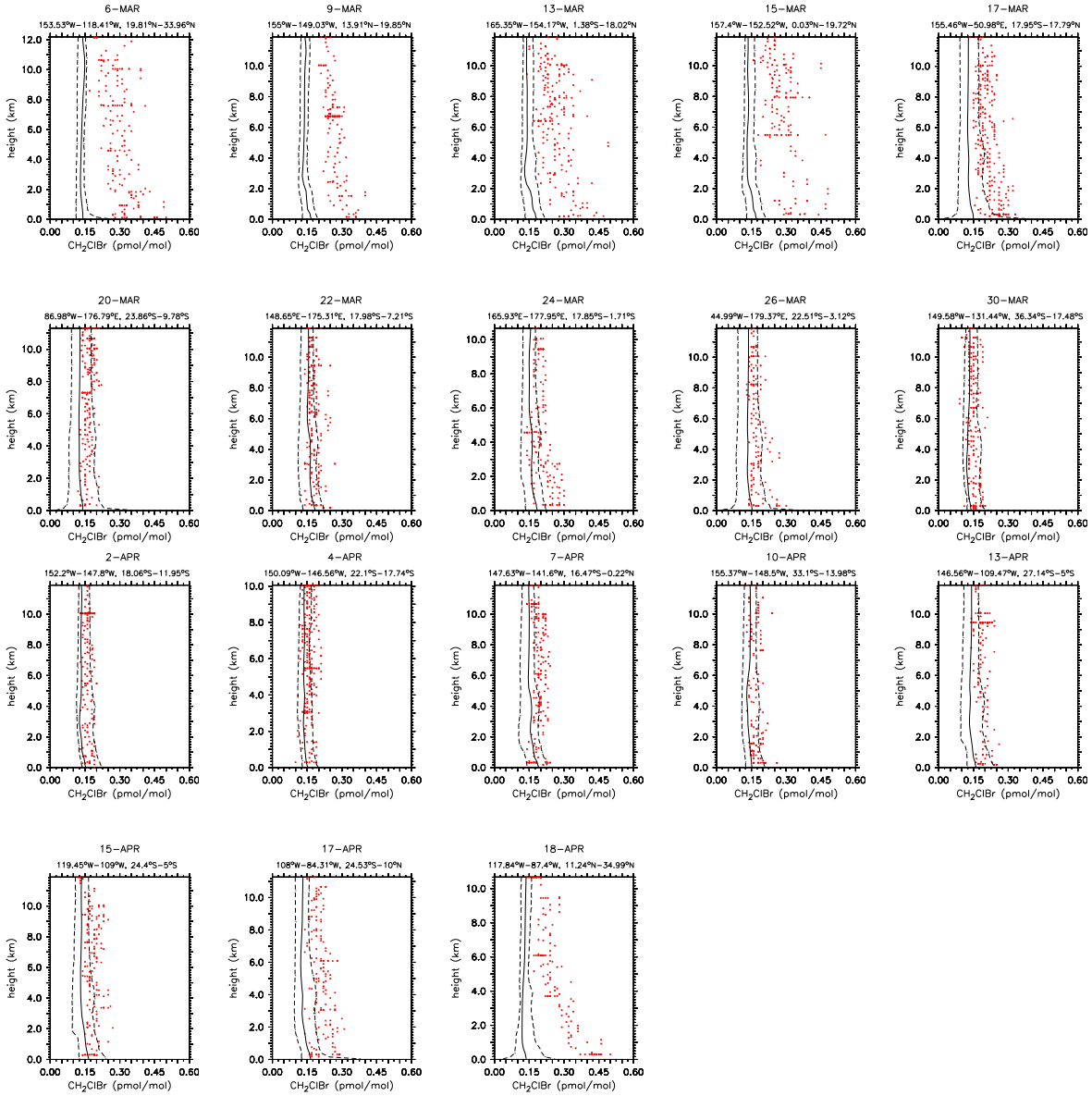

Abbildung 11: CH_2ClBr vertical profiles (pmol/mol) as measured during the PEM-Tropics-B DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum CH_2ClBr mixing ratios during the whole campaign period.

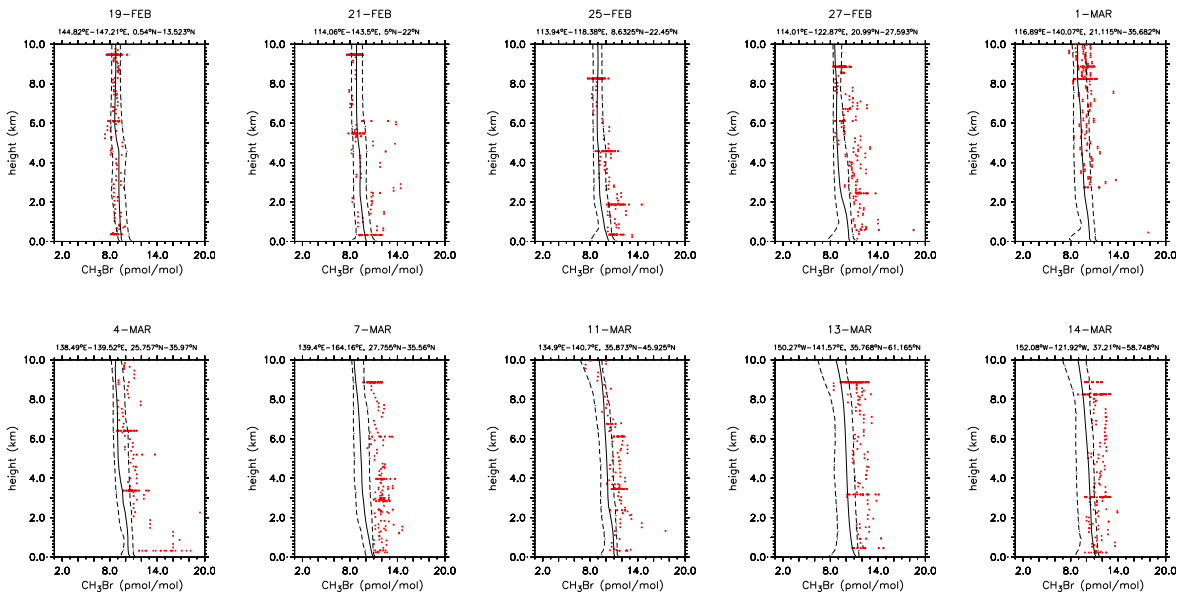

Abbildung 12: CH_3Br vertical profiles (pmol/mol) as measured during the PEM-West-B campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum CH_3Br mixing ratios during the whole campaign period.

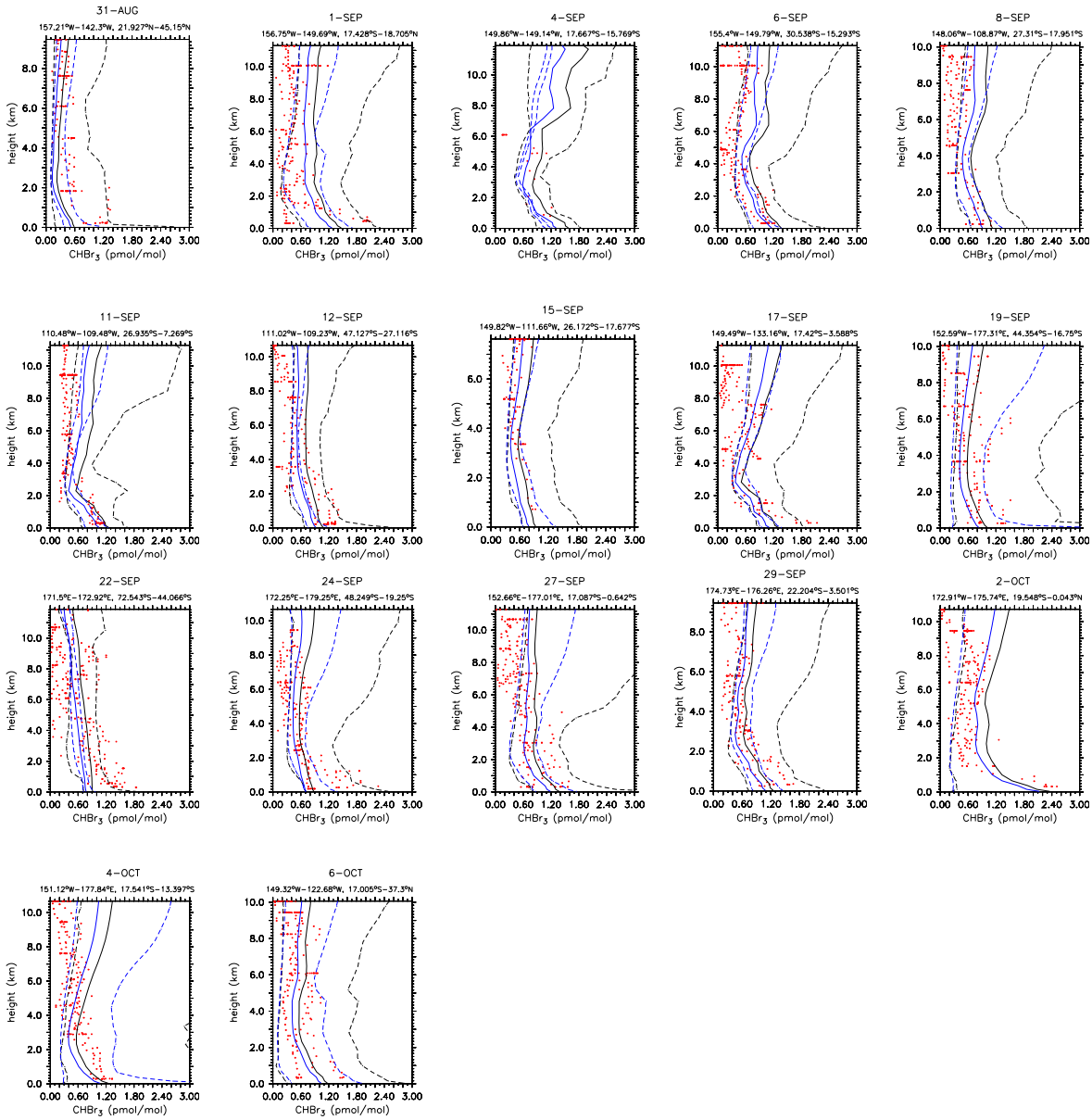

Abbildung 13: $CHBr_3$ vertical profiles (pmol/mol) as measured during the PEM-Tropics-A DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum $CHBr_3$ mixing ratios during the whole campaign period.

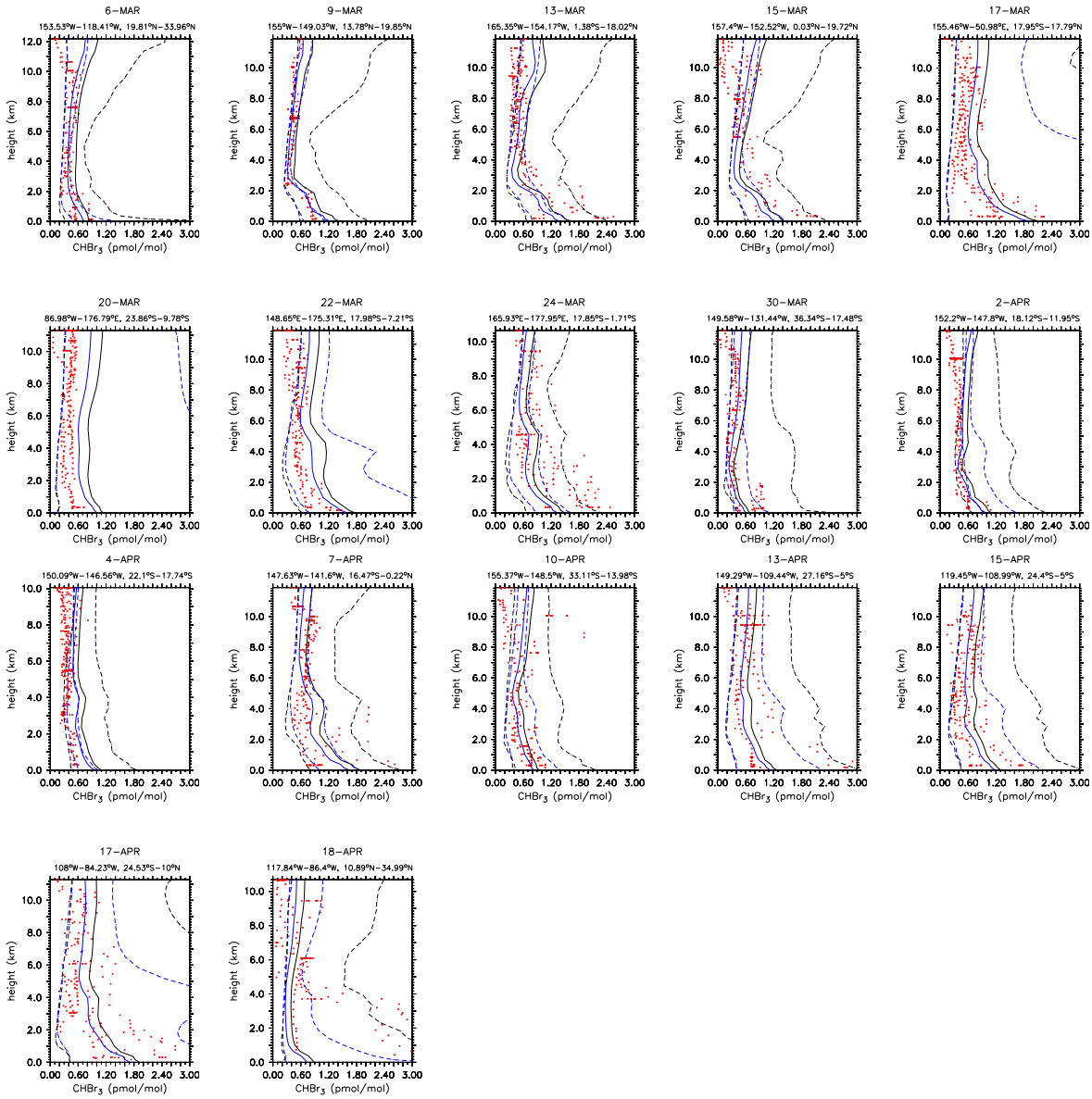

Abbildung 14: $CHBr_3$ vertical profiles (pmol/mol) as measured during the PEM-Tropics-B DC8 campaign (red dots). The black lines show the simulated vertical profiles averaged over the flight period and area. The dashed lines indicate the simulated minimum and maximum $CHBr_3$ mixing ratios during the whole campaign period. The blue lines show the $CHBr_3$ mixing ratios corrected for the reaction rate of $CHBr_3$ + OH.