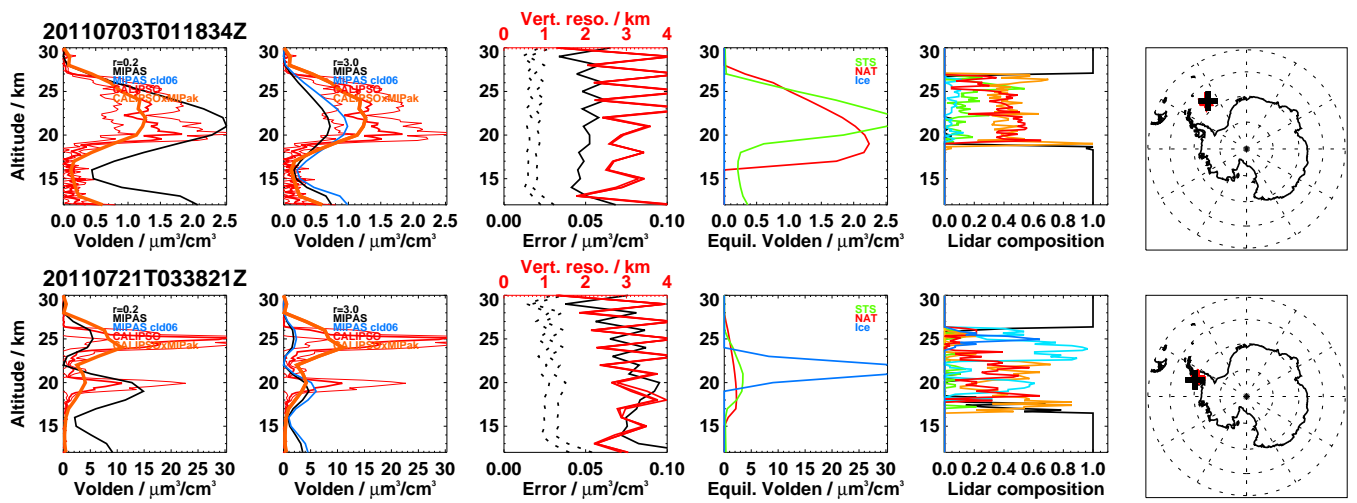


**Figure A5.** Examples of volume density profiles derived from CALIOP and MIPAS for observations within 200 km and 2 h during the Antarctic winter in 2011. Retrieval artifacts at 28 and 26 km altitude are visible in the MIPAS profiles (black lines) in the first column. See caption of Fig. 4 for the content of the columns.



**Figure A6.** Same as Fig. A5 without retrieval instabilities but with enhanced volume densities above 25 km altitude in case of both instruments.