

Improved boundary layer height measurement using a fuzzy logic method - Diurnal and seasonal variability of the convective boundary layer over a tropical station

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Figure S5 The smoothed and normalized inputs of TFL method for a residual layer case, related to figure 2 in the paper.

Figure S6 is similar to figure 4 in the paper, but special focus on residual layer case and for a different day.

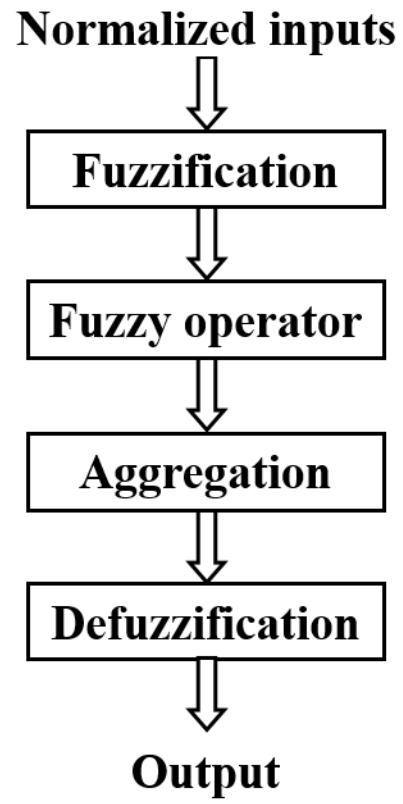


Figure S1. Fuzzy inference process flow.

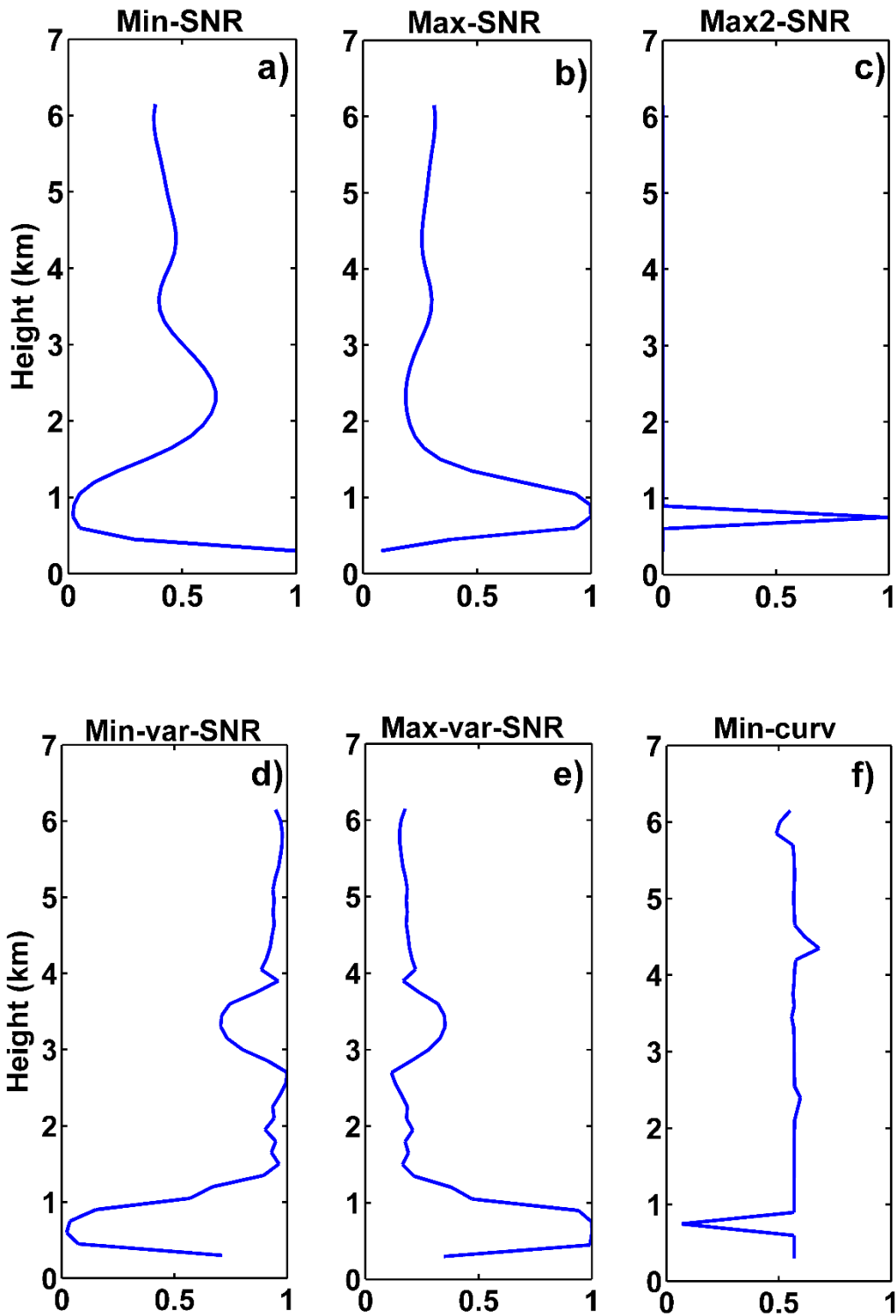


Figure S2. Normalized SNR inputs of the fuzzy logic process relative to the OFL method (figure 2 in the paper). a) Minimum of SNR, b) Maximum of SNR, c) Maximum 2 of SNR, d) Minimum of variance of SNR, e) Maximum of variance of SNR, and f) Minimum of curvature of SNR.

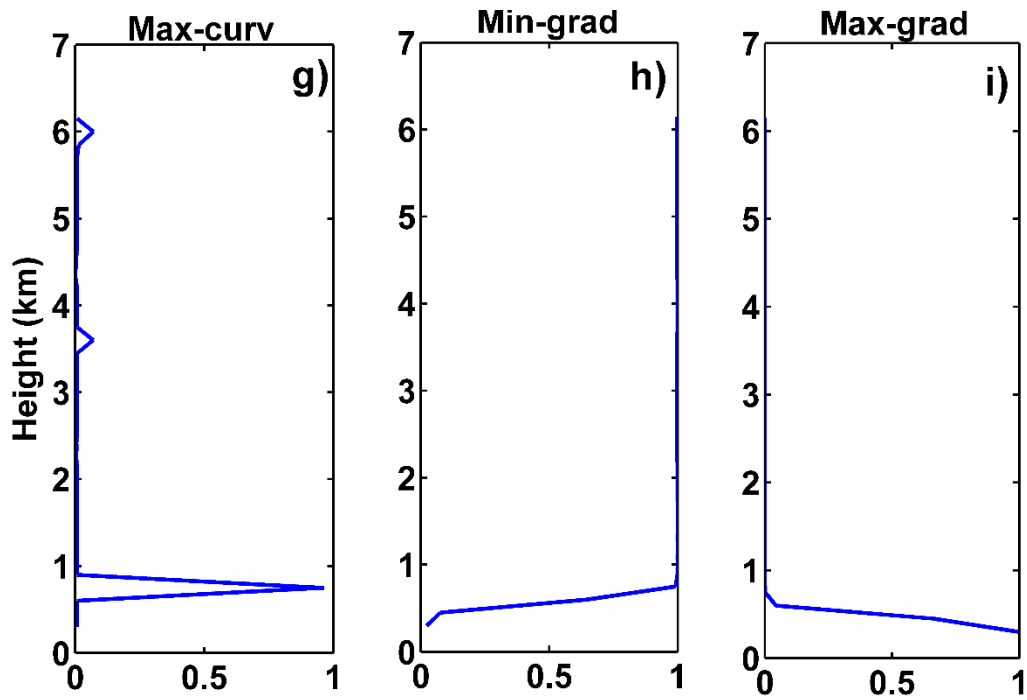


Figure S2. (Continued). g) Maximum of curvature of SNR, h) Minimum of gradient of SNR, and i) Maximum of gradient of SNR.

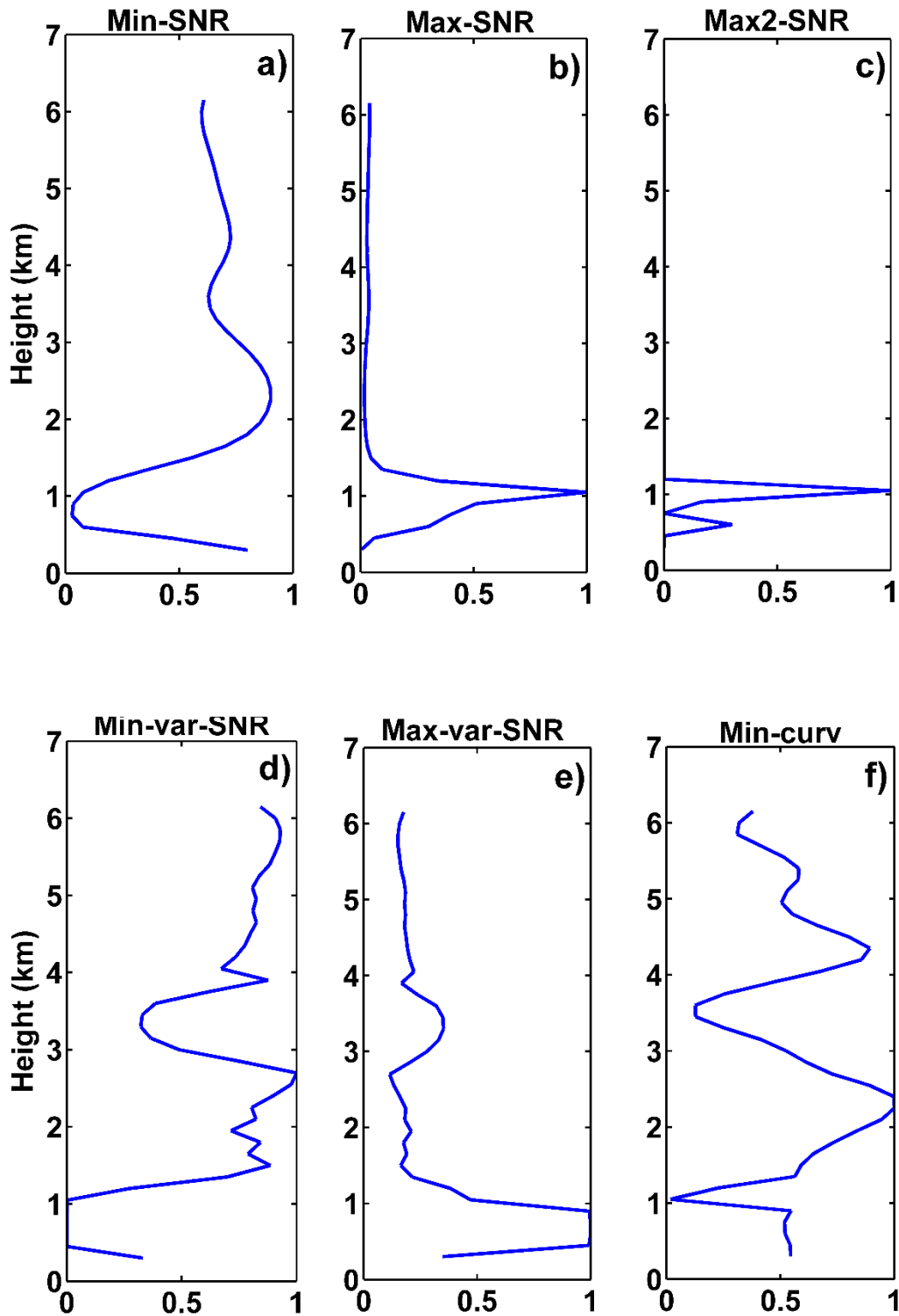


Figure S3. Normalized SNR inputs of the fuzzy logic process relative to the TFL method (figure 2 in the paper). a) Minimum of SNR, b) Maximum of SNR, c) Maximum 2 of SNR, d) Minimum of variance of SNR, e) Maximum of variance of SNR, and f) Minimum of curvature of SNR.

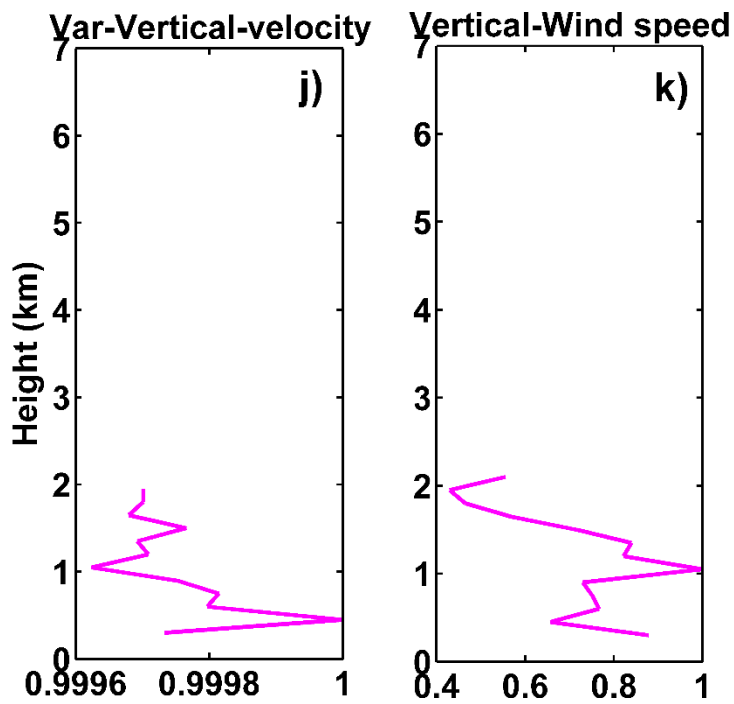
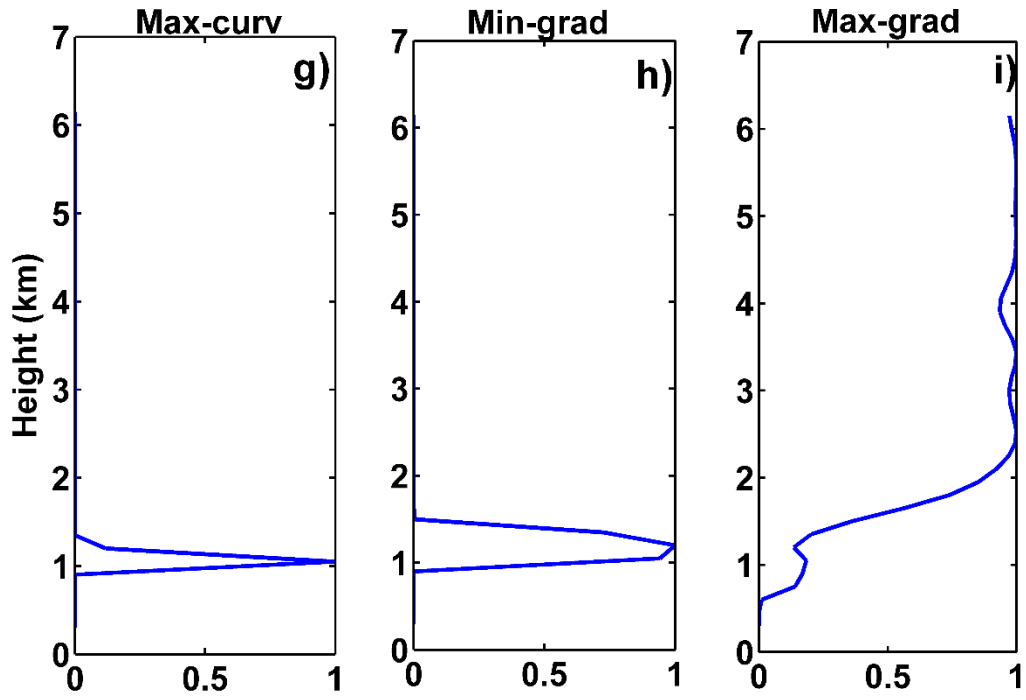


Figure S3. (Continued). g) Maximum of curvature of SNR, h) Minimum of gradient of SNR, i) Maximum of gradient of SNR, j) Variance of vertical velocity, and k) vertical wind speed

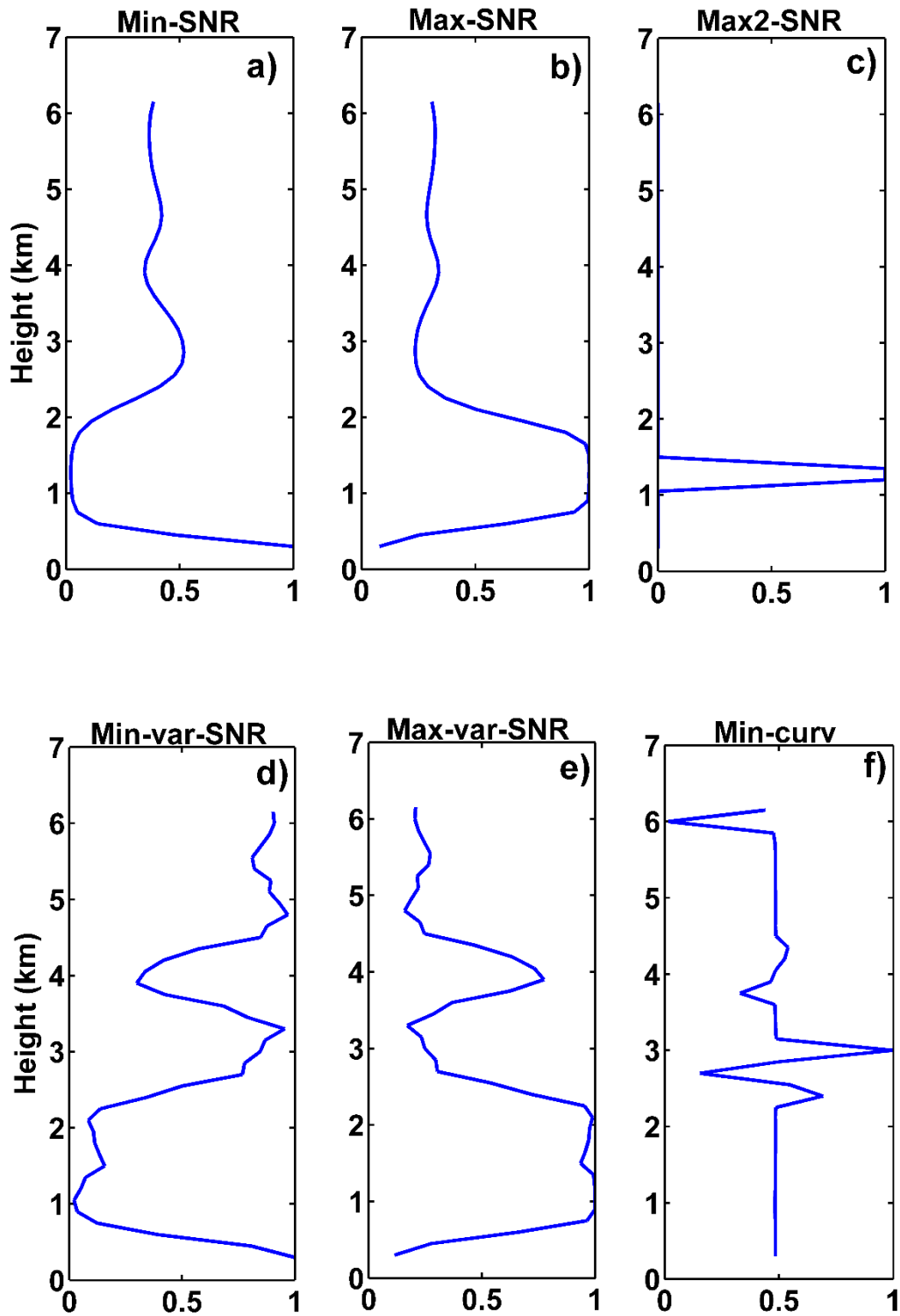


Figure S4. Normalized SNR inputs of the fuzzy logic process relative to the OFL method for a residual layer case (figure 3 in the paper). a) Minimum of SNR, b) Maximum of SNR, c) Maximum 2 of SNR, d) Minimum of variance of SNR, e) Maximum of variance of SNR, and f) Minimum of curvature of SNR

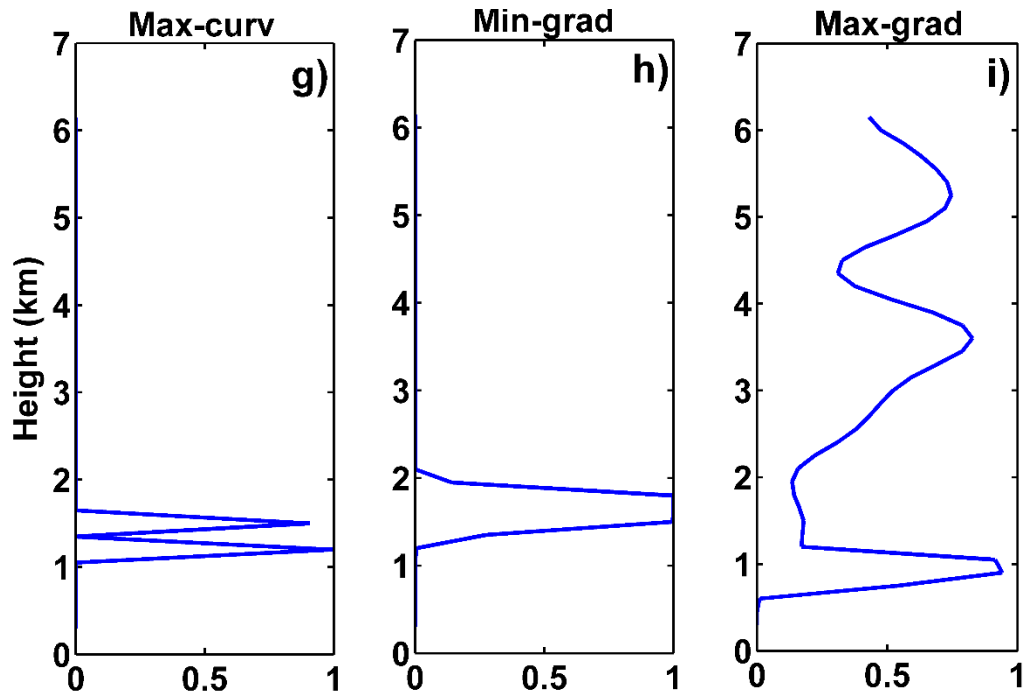


Figure S4. (Continued). g) Maximum of curvature of SNR, h) Minimum of gradient of SNR, and i) Maximum of gradient of SNR.

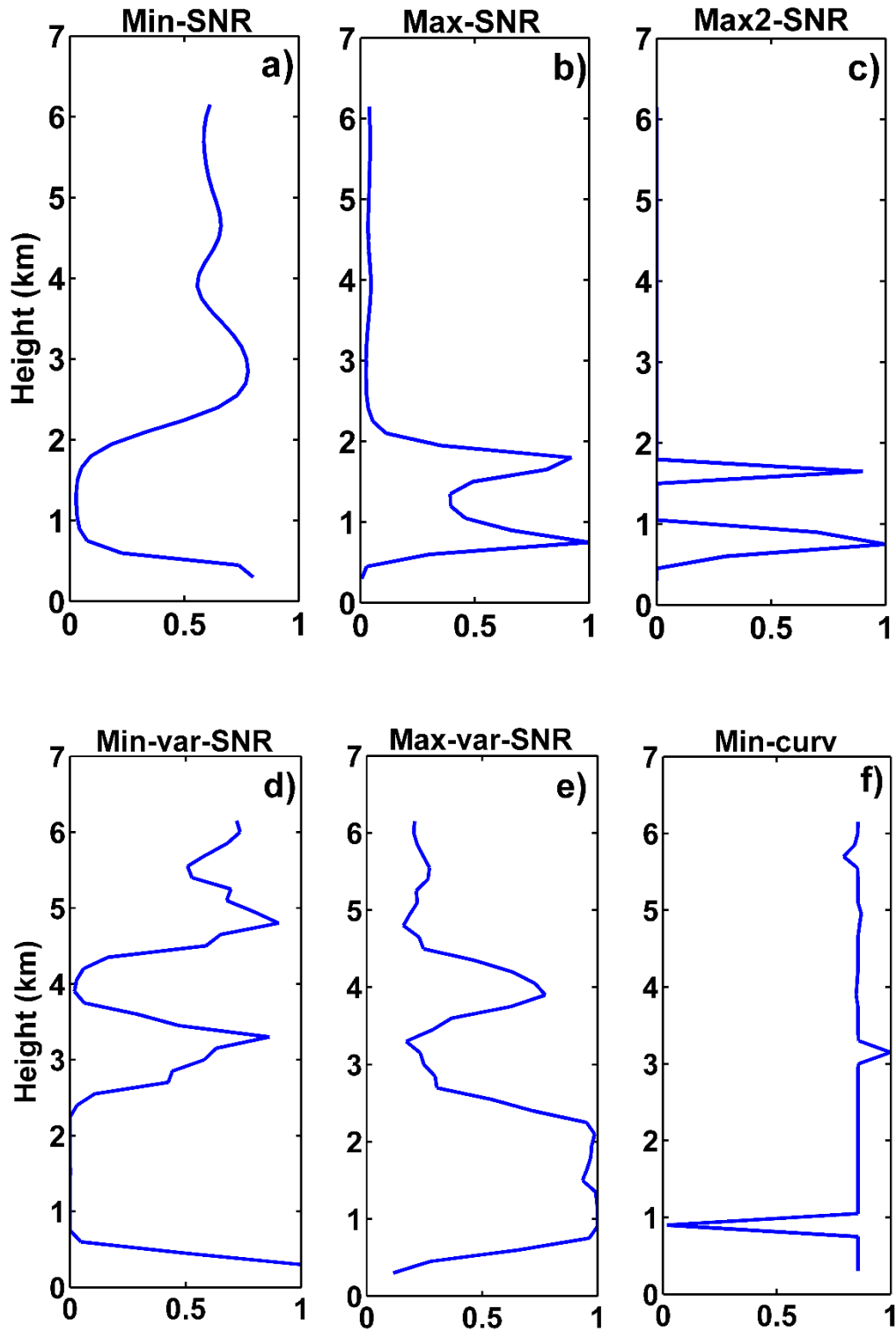


Figure S5. Normalized SNR inputs of the fuzzy logic process relative to the TFL method for a residual layer case (figure 3 in the paper). a) Minimum of SNR, b) Maximum of SNR, c) Maximum 2 of SNR, d) Minimum of variance of SNR, e) Maximum of variance of SNR, and f) Minimum of curvature of SNR.

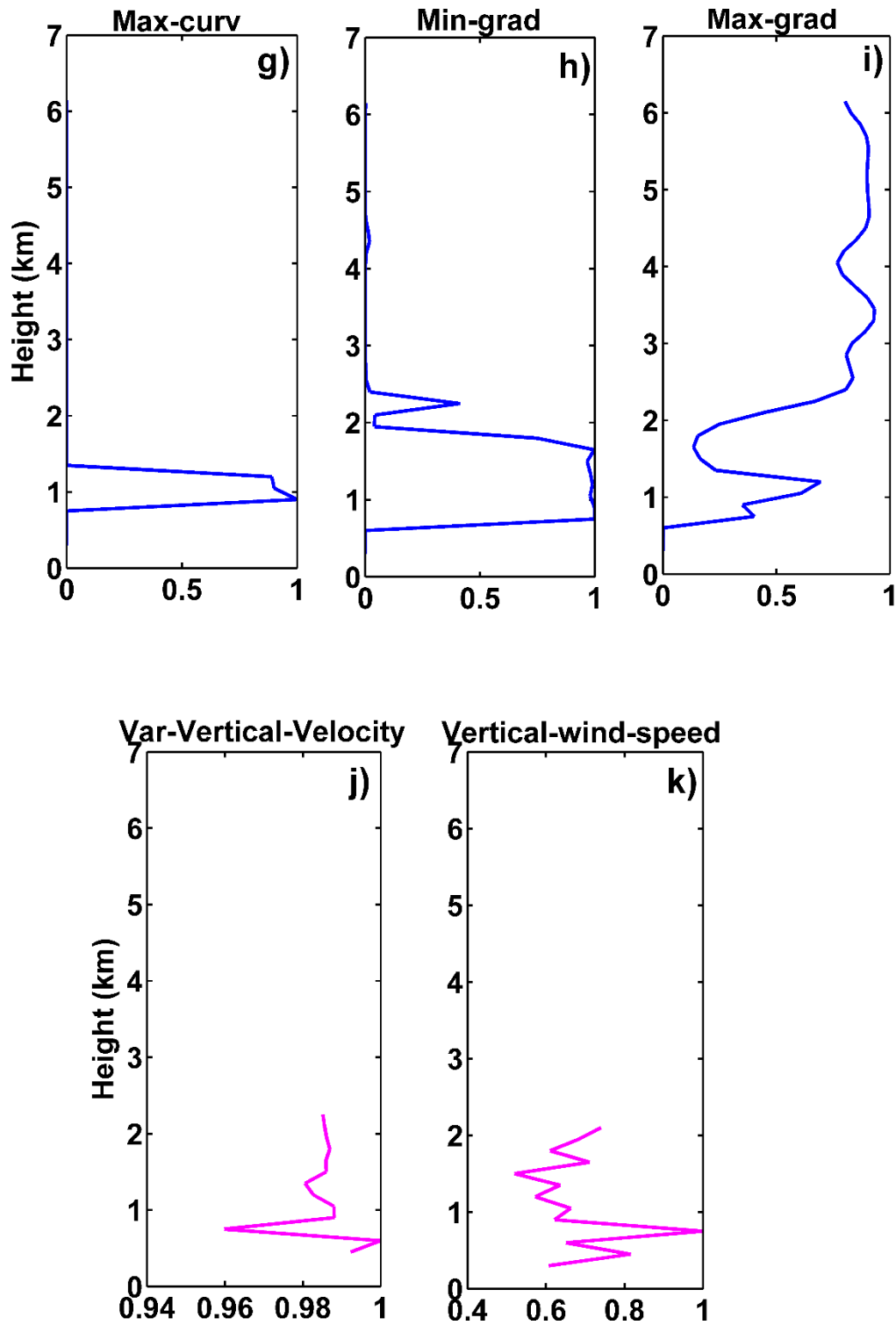


Figure S5. (Continued). g) Maximum of curvature of SNR, h) Minimum of gradient of SNR, i) Maximum of gradient of SNR, j) Variance of vertical velocity, and k) vertical wind speed

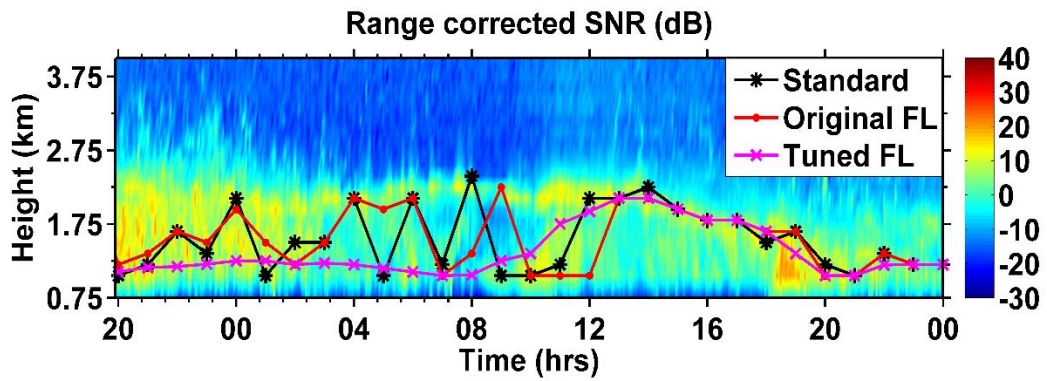


Figure S6. Time-height cross section of RCSNR and ABL heights estimation obtained by the standard method (black asterisk markers and solid line), by the OFL method (red dot markers and solid line), and by the TFL method (magenta cross markers and solid line) for December, 7, 2011, a day with a clear residual layer (similar to figure 4 in the paper, but for different date). Time is LT and ABL height is above ground level.