

Correction to: Shigaraki UAV-Radar Experiment (ShUREX): overview of the campaign with some preliminary results

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CORRECTION

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Correction to: Shigaraki UAV-Radar Experiment (ShUREX): overview of the campaign with some preliminary results

Lakshmi Kantha¹, Dale Lawrence¹, Hubert Luce², Hiroyuki Hashiguchi^{3*}, Toshitaka Tsuda³, Richard Wilson⁴, Tyler Mixa¹ and Masanori Yabuki³

Correction

An error in computing the spectral level from time series data from UAV-borne sensors was discovered after this article (Kantha et al. 2017) was published. This error has to do with inadvertent use of non-variance preserving Hanning window during spectral analysis, which leads to significant underestimate of the TKE dissipation rate ε derived from pitot tube data, structure function parameter C_T^2 from cold wire data, and dissipation rate of temperature variance χ_T and structure function parameter C_n^2 . ε was underestimated by an average factor of about 5.1, and C_T^2 and C_n^2 by about 3.0. In addition, the coefficient in

$$\chi_T = 0.9309 C_T^2 \varepsilon^{1/3} \quad (8)$$

relating χ_T and C_T^2 and ε should have been 0.3125, but instead was 0.9309, a factor of ~ 3 higher. However, since both C_T^2 and ε were underestimated by a factor of 3 and 5.1, respectively, χ_T was underestimated by a factor of just 1.7.

Therefore, ε values in Figs. 12, 13, 15 and 16 should be multiplied by 5.1, C_T^2 values in Fig. 17 by 3.0, χ_T values in Fig. 18 by 1.7 and C_n^2 values in Fig. 19 by 3.0. The discussions in the text should be correspondingly modified. The lead author accepts the responsibility and apologizes for this error.

We also take this opportunity to point out that ShUREX 2015 and 2016 data have been processed and the scientific results are available in the references (Luce et al. 2017, 2018a, b) cited in this correction. The reader is also referred to: (Luce et al. 2018c) /Luce H, Kantha L, Hashiguchi H, Lawrence D, Doddi A (2018) Turbulence Kinetic

Energy dissipation rates estimated from concurrent UAV and MU radar measurements, personal communication/ /Kantha L, Luce H, Hashiguchi H (2018) On a numerical model for extracting TKE dissipation rate from VHF radar spectral width, personal communication/.

This has now been included in this correction.

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