INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

IEC 61400-50-3
Edition 1.0 2022-01

WIND ENERGY GENERATION SYSTEMS –

Part 50-3: Use of nacelle-mounted lidars for wind measurements

IEC 61400-50-3
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SYSTÈMES DE GÉNÉRATION D'ÉNERGIE ÉOLIENNE –

Partie 50-3: Utilisation de lidars montés sur nacelle pour le mesurage du vent

CORRIGENDUM 1

Corrections to the French version appear after the English text.

Les corrections à la version française sont données après le texte anglais.

4 Symbols and abbreviated terms

In the table, in the 22nd row before the end of the table (corresponding to ΔV_{hor}), replace "deg" *with* "m/s".

7.6.2.2 Horizontal wind speed uncertainty

After Formula (17), in "u_{cal} is the calibration uncertainty of the reference sensor used to measure …", *replace* "$V_{hor} - u_{cal}$" with "$V_{hor} \cdot u_{cal}$".

Table 1 – Summary of calibration uncertainty components

Renumber the entries in the table as follows, replacing the second "4" *with a* "5" *and inserting a* "10" *after* "9":

IEC 61400-50-3:2022-01/COR1:2023-11(en-fr)

No.	Component	Type	Description
Reference anemometer			
1	Calibration uncertainty, u_{cal}	B	Calibration uncertainty of the reference anemometer sensor according to IEC 61400-12-1:2017
2	Operational characteristics, u_{ope}	B	Anemometer class according to IEC 61400-12-1:2017
3	Mounting, u_{mast}	B	Mounting uncertainty of the anemometer
4	Lighting finial, u_{lgh}	B	Uncertainty of the reference anemometer due to due to lightning finial
5	Data acquisition, u_{daq}	B	Data acquisition system uncertainty
Lidar probe length			
6	Site effects, u_{probe}	B	Horizontal wind flow variation within the lidar probe volume
Height error			**Measurement errors due to wind shear**
7	Installation, $u_{\mathrm{vert\_pos}}$	B	Height difference between reference anemometer and LOS due to installation of optical head
8	Measurement range, u_{inc}	B	Height difference between reference anemometer and LOS due to measurement range error
Relative wind direction, u_{θ_r}			
9	Reference wind direction sensor, u_{θ}	B	Deviation from linearity and other instrument uncertainties
10	Determination of line of sight, $u_{\theta_{\mathrm{los}}}$	B	Uncertainty in the procedure of 7.5.6
Projection error			**Errors in the angle used in projection**
11	Installation, u_{φ}	B	The inclinometers' calibration uncertainty or the uncertainty of the direct measurement of φ (e.g. theodolite)
12	Flow inclination, u_{ψ}	B	Uncertainty due to neglecting the contribution of $W \sin\varphi$
Calibration measurements			
13	Statistical uncertainty	A	$\sigma_{\mathrm{dev}} / \sqrt{N}$

Annex A − Example calculation of uncertainty of reconstructed parameters for WFR with two lines of sight

A.2 Uncertainty propagation through WFR algorithm

In the second paragraph, replace $f\left(x_{\mathrm{y}}, x_2, \ldots x_{\mathrm{N}}\right)$ *with* $f\left(x_1, x_2, \ldots x_{\mathrm{N}}\right)$.

A.3 Operational uncertainty of the lidar and WFR algorithm

Replace (uope,lidar = 0) *with* ($u_{\mathrm{ope,lidar}}$ = 0).