

PCAL Calibration Factors for LHOY

PCAL Team

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| Description | Variable(Units) | D20150827 | D20151013 |
|-----------------------------------|------------------------|---------------------------------------|---------------------------------------|
| Mass of ETM | $M(Kg)$ | $39.6430 \pm 0.01\%$ | $39.6430 \pm 0.01\%$ |
| Cosine of Incident Angle | $Cos\theta$ | $0.9884 \pm 0.07\%$ | $0.9884 \pm 0.07\%$ |
| WS/GS(T15000035) | (V/V) | $0.9262 \pm 0.03\%$ | $0.9262 \pm 0.03\%$ |
| GS/NIST(T15000035) | (V/W) | $-1.6935 \pm 0.44\%$ | $-1.6935 \pm 0.44\%$ |
| WS/TX (inner beam) | (V/V) | $-0.1806 \pm 3.7 \times 10^{-03} \%$ | $-0.1805 \pm 3.4 \times 10^{-03} \%$ |
| WS/TX (outer beam) | (V/V) | $-0.1838 \pm 3.5 \times 10^{-03} \%$ | $-0.1841 \pm 3.6 \times 10^{-03} \%$ |
| WS/TX (inner beam) | (V/V) | $-0.1769 \pm 3.6 \times 10^{-03} \%$ | $-0.1789 \pm 3.5 \times 10^{-03} \%$ |
| WS/TX (outer beam) | (V/V) | $-0.1816 \pm 3.1 \times 10^{-03} \%$ | $-0.1818 \pm 3.4 \times 10^{-03} \%$ |
| RX/TX (inner beam) | (V/V) | $0.7159 \pm 3.7 \times 10^{-04} \%$ | $0.7154 \pm 3.2 \times 10^{-04} \%$ |
| RX/TX (outer beam) | (V/V) | $0.7265 \pm 3.1 \times 10^{-04} \%$ | $0.7276 \pm 2.7 \times 10^{-04} \%$ |
| Optical efficiency (inner) | e_i | $0.9792 \pm 0.61\%$ | $0.9914 \pm 0.25\%$ |
| Optical efficiency (outer) | e_o | $0.9883 \pm 0.34\%$ | $0.9873 \pm 0.37\%$ |
| Optical efficiency | e | $0.9838 \pm 0.47\%$ | $0.9893 \pm 0.31\%$ |
| TX/WS (combined) | (V/V) | $-2.7442 \pm 3.4 \times 10^{-04} \%$ | $-2.7427 \pm 3.3 \times 10^{-04} \%$ |
| RX/WS (combined) | (V/V) | $-4.0235 \pm 4.8 \times 10^{-03} \%$ | $-4.0004 \pm 4.8 \times 10^{-03} \%$ |
| Calibration factor (TxPD) | (V/W) | $4.3396 \pm 0.64690\%$ | $4.3252 \pm 0.54007\%$ |
| Calibration factor (RxPD) | (V/W) | $6.2596 \pm 0.64691\%$ | $6.2411 \pm 0.54009\%$ |
| Displacement factor (TxPD)/ f^2 | (m/V) | $9.708 \times 10^{-13} \pm 0.65241\%$ | $9.741 \times 10^{-13} \pm 0.54667\%$ |
| Displacement factor (RxPD)/ f^2 | (m/V) | $6.731 \times 10^{-13} \pm 0.65243\%$ | $6.751 \times 10^{-13} \pm 0.54669\%$ |
| Force Coefficient (TxPD) | (N/V) | $1.519 \times 10^{-09} \pm 0.65229\%$ | $1.524 \times 10^{-09} \pm 0.54652\%$ |
| Force Coefficient (RxPD) | (N/V) | $1.053 \times 10^{-09} \pm 0.65231\%$ | $1.056 \times 10^{-09} \pm 0.54654\%$ |