# PCAL Calibration Factors for LHOY

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| Description | Variable(Units) | D20150811 | D20150827 |
|---|---|---|---|
| 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(T1500035) | $(V/W)$ | $-1.6935 \pm 0.44\%$ | $-1.6935 \pm 0.44\%$ |
| WS/TX (inner beam) | $(V/V)$ | $-0.1808 \pm 4.4 \times 10^{-03}$ % | $-0.1806 \pm 3.7 \times 10^{-03}$ % |
| WS/TX (outer beam) | $(V/V)$ | $-0.1838 \pm 3.9 \times 10^{-03}$ % | $-0.1838 \pm 3.5 \times 10^{-03}$ % |
| WS/TX (inner beam) | $(V/V)$ | $-0.1790 \pm 4.3 \times 10^{-03}$ % | $-0.1769 \pm 3.6 \times 10^{-03}$ % |
| WS/TX (outer beam) | $(V/V)$ | $-0.1814 \pm 4.6 \times 10^{-03}$ % | $-0.1816 \pm 3.1 \times 10^{-03}$ % |
| RX/TX (inner beam) | $(V/V)$ | $0.7164 \pm 4.5 \times 10^{-04}$ % | $0.7159 \pm 3.7 \times 10^{-04}$ % |
| RX/TX (outer beam) | $(V/V)$ | $0.7267 \pm 4.0 \times 10^{-04}$ % | $0.7265 \pm 3.1 \times 10^{-04}$ % |
| Optical efficiency (inner) | $e_i$ | $0.9898 \pm 0.30\%$ | $0.9792 \pm 0.61\%$ |
| Optical efficiency (outer) | $e_o$ | $0.9868 \pm 0.38\%$ | $0.9883 \pm 0.34\%$ |
| Optical efficiency | $e$ | $0.9883 \pm 0.34\%$ | $0.9838 \pm 0.47\%$ |
| TX/WS (combined) | $(V/V)$ | $-2.7423 \pm 3.9 \times 10^{-04}$ % | $-2.7442 \pm 3.4 \times 10^{-04}$ % |
| RX/WS (combined) | $(V/V)$ | $-4.0042 \pm 6.3 \times 10^{-03}$ % | $-4.0235 \pm 4.8 \times 10^{-03}$ % |
| Calibration factor (TxPD) | $(V/W)$ | $4.3268 \pm 0.55881\%$ | $4.3396 \pm 0.64690\%$ |
| Calibration factor (RxPD) | $(V/W)$ | $6.2438 \pm 0.55885\%$ | $6.2596 \pm 0.64691\%$ |
| Displacement factor (TxPD)/$f^2$ | $(m/V)$ | $9.737 \times 10^{-13} \pm 0.56519\%$ | $9.708 \times 10^{-13} \pm 0.65241\%$ |
| Displacement factor (RxPD)/$f^2$ | $(m/V)$ | $6.748 \times 10^{-13} \pm 0.56522\%$ | $6.731 \times 10^{-13} \pm 0.65243\%$ |
| Force Coefficient (TxPD) | $(N/V)$ | $1.524 \times 10^{-09} \pm 0.56505\%$ | $1.519 \times 10^{-09} \pm 0.65229\%$ |
| Force Coefficient (RxPD) | $(N/V)$ | $1.056 \times 10^{-09} \pm 0.56508\%$ | $1.053 \times 10^{-09} \pm 0.65231\%$ |