**Supplementary Material for:**

# Absolute Doubly Differential Angular Sputtering Yields for 20 keV $Kr^+$ on Polycrystalline Cu

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**Table S1** – Polar $\theta_s$ and azimuthal $\phi_s$ angle for the center of each collector, together with the measured mass gain $\Delta m$, uncertainty in the measured mass gain $\sigma_{\Delta m}$, absolute measured and SDTrimSP doubly differential sputtering yield $(dY/d\Omega)_M$ and $(dY/d\Omega)_S$, respectively, and fractional difference between the measured and simulated yield $\Delta(dY/d\Omega) = [(dY/d\Omega)_M - (dY/d\Omega)_S)] / (dY/d\Omega)_S$.

| $\theta_s$ | $\phi_s$ | $\Delta m$ | $\sigma_{\Delta m}$ | $(dY/d\Omega)_M$ | $(dY/d\Omega)_S$ | $\Delta(dY/d\Omega)$ |
|---|---|---|---|---|---|---|
| (degree) | (degree) | (μg) | (μg) | (atoms/ion/sr) | (atoms/ion/sr) | |
| 0.0 | 0.0 | 10.12 | 0.13 | 9.65 | 9.43 | 0.023 |
| 15.0 | 0.0 | 9.41 | 0.20 | 8.98 | 9.03 | -0.006 |
| 15.0 | 60.0 | 10.03 | 0.25 | 9.56 | 8.75 | 0.093 |
| 15.0 | 120.0 | 9.05 | 0.41 | 8.63 | 8.54 | 0.010 |
| 15.0 | 180.0 | 8.63 | 0.17 | 8.23 | 8.39 | -0.019 |
| 30.0 | 0.0 | 7.66 | 0.12 | 7.30 | 7.48 | -0.023 |
| 30.0 | 28.4 | 7.76 | 0.08 | 7.40 | 7.39 | 0.001 |
| 30.0 | 56.8 | 8.41 | 0.18 | 8.02 | 7.19 | 0.116 |
| 30.0 | 85.2 | 8.44 | 0.07 | 8.05 | 6.99 | 0.151 |
| 30.0 | 113.6 | 7.60 | 0.11 | 7.25 | 6.84 | 0.060 |
| 30.0 | 142.0 | 6.73 | 0.13 | 6.42 | 6.77 | -0.052 |
| 45.0 | 0.0 | 5.61 | 0.08 | 5.35 | 5.44 | -0.017 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 45.0 | 20.5 | 5.86 | 0.07 | 5.59 | 5.45 | 0.025 |
| 45.0 | 41.0 | 6.18 | 0.11 | 5.90 | 5.27 | 0.119 |
| 45.0 | 61.5 | 6.23 | 0.07 | 5.94 | 5.20 | 0.141 |
| 45.0 | 82.0 | 6.90 | 0.09 | 6.58 | 5.01 | 0.314 |
| 45.0 | 102.5 | 6.39 | 0.07 | 6.10 | 4.98 | 0.224 |
| 45.0 | 123.0 | 5.30 | 0.07 | 5.05 | 4.71 | 0.072 |
| 45.0 | 143.5 | 5.13 | 0.11 | 4.89 | 4.57 | 0.071 |
| 60.0 | 0.0 | 2.77 | 0.12 | 2.64 | 3.17 | -0.168 |
| 60.0 | 17.0 | 2.85 | 0.12 | 2.72 | 3.06 | -0.111 |
| 60.0 | 34.0 | 3.10 | 0.06 | 2.95 | 3.19 | -0.075 |
| 60.0 | 51.0 | 2.98 | 0.76 | 2.84 | 2.97 | -0.044 |
| 60.0 | 68.0 | 3.62 | 0.13 | 3.45 | 2.87 | 0.202 |
| 60.0 | 85.0 | 3.96 | 0.11 | 3.77 | 2.69 | 0.402 |
| 60.0 | 102.0 | 3.74 | 0.10 | 3.57 | 2.77 | 0.285 |
| 60.0 | 119.0 | 3.49 | 0.11 | 3.32 | 2.58 | 0.286 |
| 60.0 | 136.0 | 3.50 | 0.04 | 3.33 | 2.52 | 0.321 |
| 60.0 | 153.0 | 3.77 | 0.08 | 3.59 | 2.51 | 0.431 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 75.0 | 0.0 | 0.01 | 0.62 | 0.01 | 1.21 | -0.990 |
| 75.0 | 14.5 | 0.40 | 0.16 | 0.38 | 1.20 | -0.680 |
| 75.0 | 29.0 | 0.88 | 0.12 | 0.84 | 1.24 | -0.320 |
| 75.0 | 43.5 | 0.82 | 0.06 | 0.78 | 1.20 | -0.349 |
| 75.0 | 58.0 | 1.22 | 0.19 | 1.16 | 1.18 | -0.021 |
| 75.0 | 72.5 | 1.86 | 0.10 | 1.77 | 1.15 | 0.537 |
| 75.0 | 87.0 | 1.98 | 0.07 | 1.89 | 1.08 | 0.741 |
| 75.0 | 101.5 | 1.54 | 0.09 | 1.46 | 1.00 | 0.461 |
| 75.0 | 116.0 | 1.71 | 0.06 | 1.63 | 1.09 | 0.494 |
| 75.0 | 130.5 | 1.59 | 0.08 | 1.52 | 0.98 | 0.545 |
| 75.0 | 145.0 | 1.74 | 0.09 | 1.66 | 0.97 | 0.717 |
| 75.0 | 159.5 | 1.88 | 0.08 | 1.79 | 0.99 | 0.813 |