

## **SUPPLEMENTARY INFORMATION**

### **Fundamental Studies of the Liquid Sampling–Atmospheric Pressure Glow Discharge’s Excitation of Atomic and Ionic Species**

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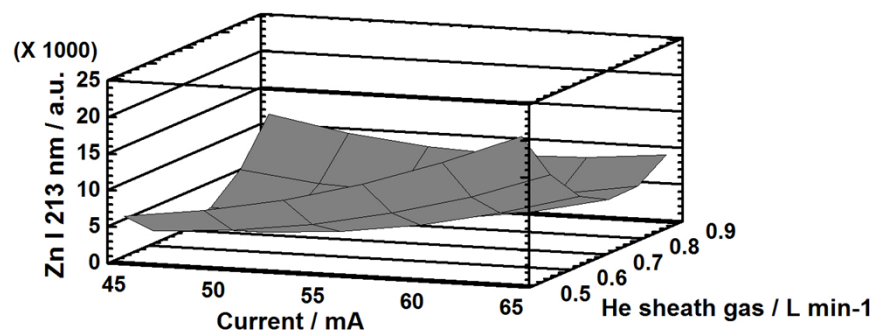


Fig. S1a

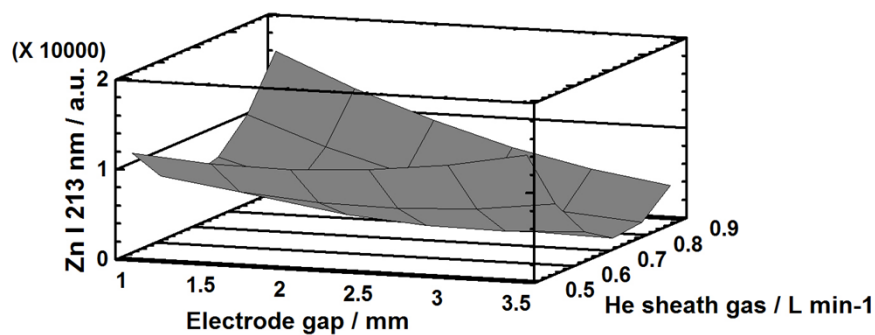


Fig. S1b

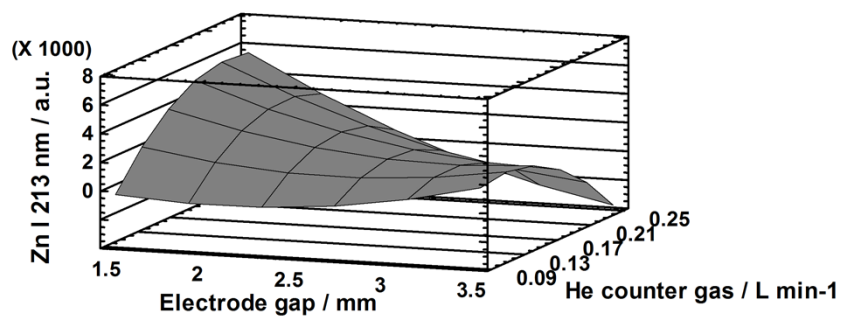


Fig. S1c

Figure S1: Inter-parametric effects on the Zn I 213.9 nm emission response depicted in form of response surfaces showing a) current – He sheath gas, b) electrode gap – He sheath gas, and c) electrode gap – He counter flow relationships. The other conditions not shown in the respective response surfaces were kept constant at 55 mA (current), 0.7 L min<sup>-1</sup> (He sheath gas flow rate), 2.25 mm (electrode gap) and 0.16 L min<sup>-1</sup> (He counter flow).

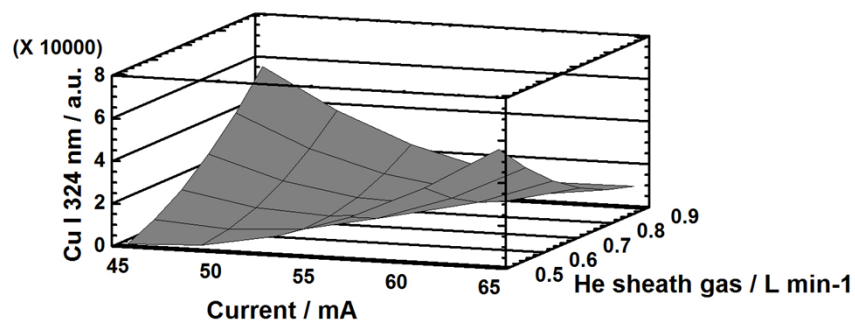


Fig. S2a

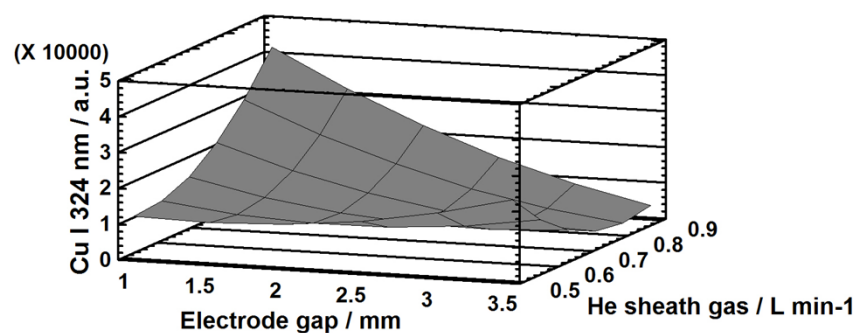


Fig. S2b

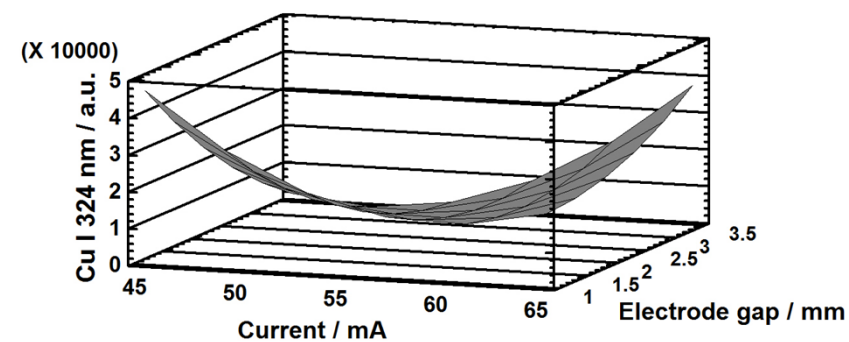


Fig. S2c

Figure S2: Inter-parametric effects on the Cu I 324.7 nm emission response depicted in form of response surfaces showing a) current – He sheath gas, b) electrode gap – He sheath gas, and c) current – electrode gap relationships. The other conditions not shown in the respective response surfaces were kept constant at 55 mA (current), 0.7 L min<sup>-1</sup> (He sheath gas flow rate), 2.25 mm (electrode gap) and 0.16 L min<sup>-1</sup> (He counter flow).

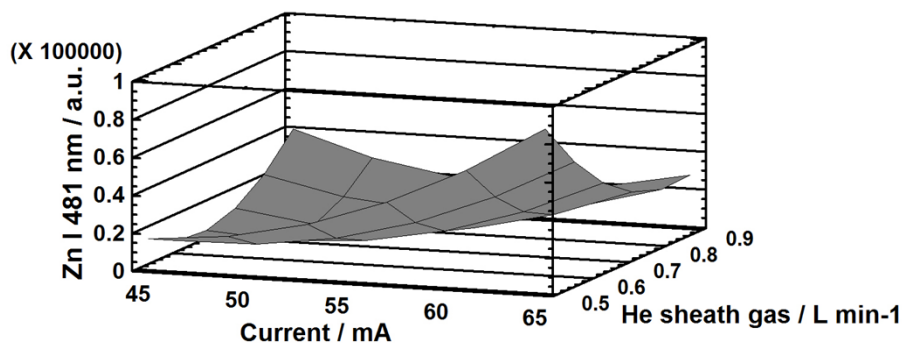


Fig. S3a

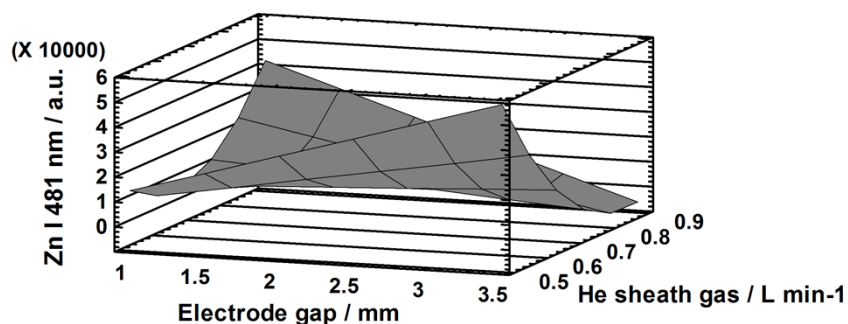


Fig. S3b

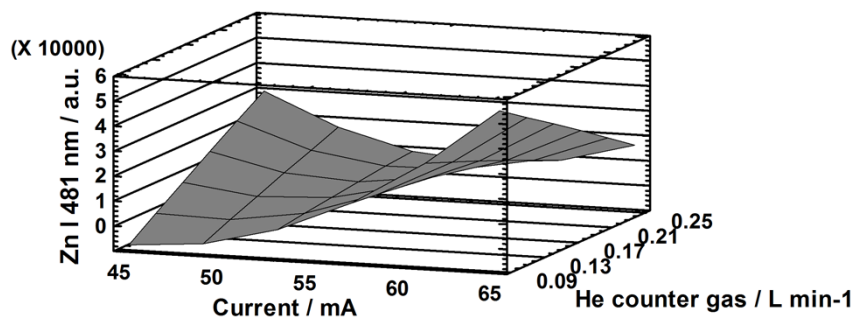


Fig. S3c

Figure S3: Inter-parametric effects on the Zn I 481.1 nm emission response depicted in form of response surfaces showing a) current – He sheath gas, b) electrode gap – He sheath gas, and c) current – He counter flow relationships. The other conditions not shown in the respective response surfaces were kept constant at 55 mA (current), 0.7 L min<sup>-1</sup> (He sheath gas flow rate), 2.25 mm (electrode gap) and 0.16 L min<sup>-1</sup> (He counter flow).

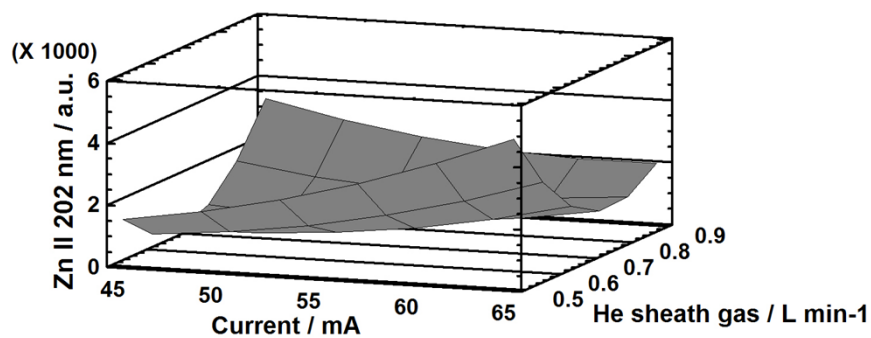


Fig. S4a

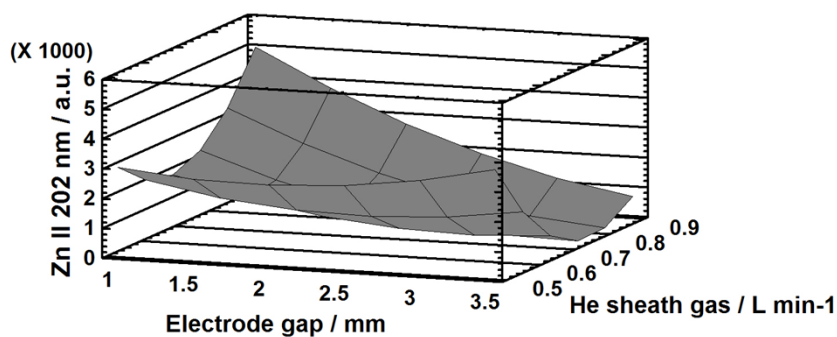


Fig. S4b

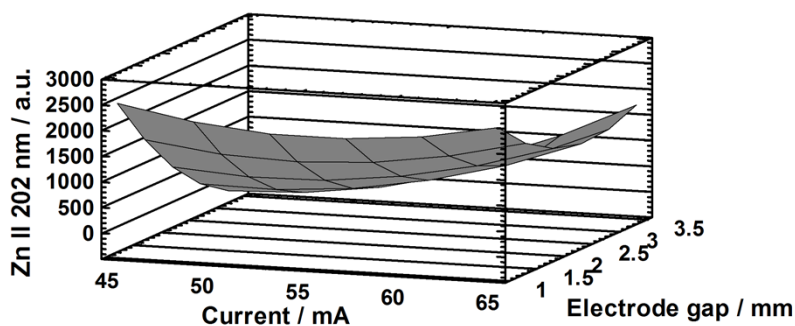


Fig. S4c

Figure S4: Inter-parametric effects on the Zn II 202.5 nm emission response depicted in form of response surfaces showing a) current – He sheath gas, b) electrode gap – He sheath gas, and c) current - electrode gap relationships. The other conditions not shown in the respective response surfaces were kept constant at 55 mA (current), 0.7 L min<sup>-1</sup> (He sheath gas flow rate), 2.25 mm (electrode gap) and 0.16 L min<sup>-1</sup> (He counter flow).