

Supplementary Material:

**Multi-element Signal Enhancement Mechanism Investigation for
Laser Ablation Assisted Ultraviolet Laser Excited Atomic
Fluorescence**

Kaikai KOU^{a,b}, Weiran SONG^{a,b}, Weilun GU^{a,b}, Jiachen LIU^{a,b}, Yuzhou SONG^{a,b}, Jianxun JI^{a,b}, Zongyu

HOU^{a,b}, Zhe WANG^{a,b*}

^a *State Key Lab of Power Systems, International Joint Laboratory on Low Carbon Clean Energy
Innovation, Department of Energy and Power Engineering, Tsinghua University, Beijing, 100084, China*

^b *Shanxi Research Institute for Clean Energy, Tsinghua University, Taiyuan, 030032, China*

*Corresponding author. Zhe WANG: zhewang@tsinghua.edu.cn.

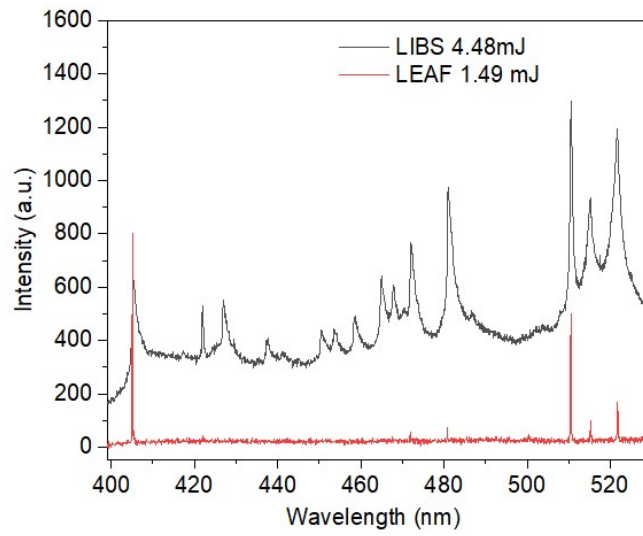


Fig. S1 Original spectra of LIBS and LEAF scheme. $E_a = 4.48$ mJ in LIBS scheme. $E_a = 1.49$ mJ, $E_c = 0.6$ mJ, $t_{ip} = 200$ ns in LEAF scheme.

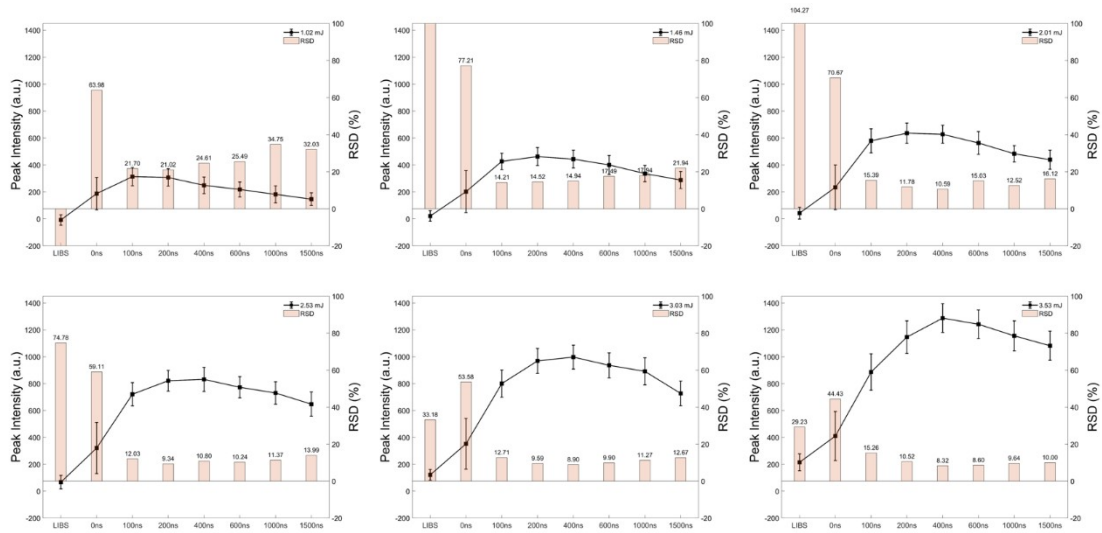


Fig. S2 Effect of ablation laser energy and inter-pulse delay (t_{ip}) on Cu I (510.55 nm) emission intensity and RSD. Laser energy of 193 nm was 0.6 mJ.

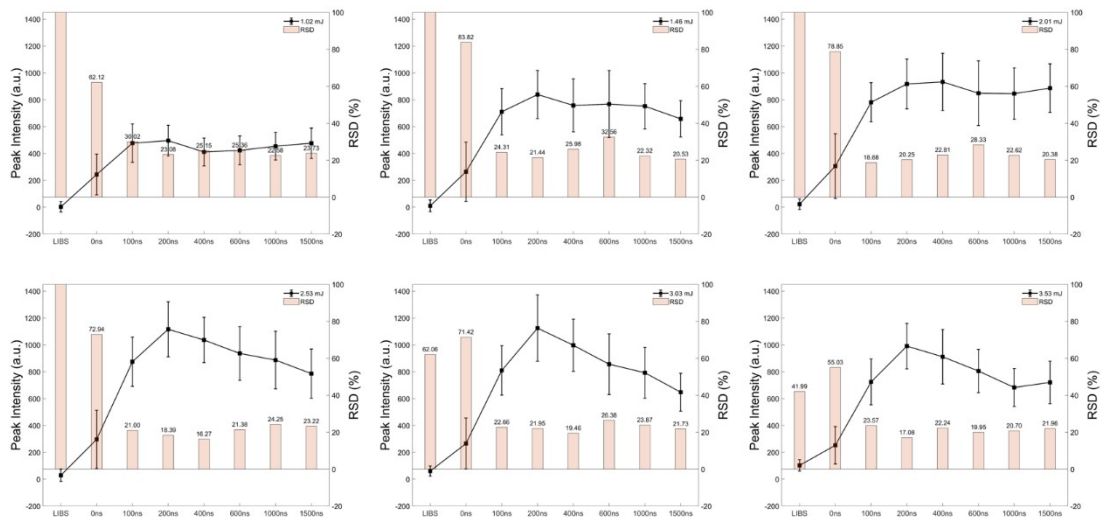


Fig. S3 Effect of ablation laser energy and inter-pulse delay (t_{ip}) on Pb I (405.78 nm) emission intensity and RSD. Laser energy of 193 nm was 0.6 mJ.