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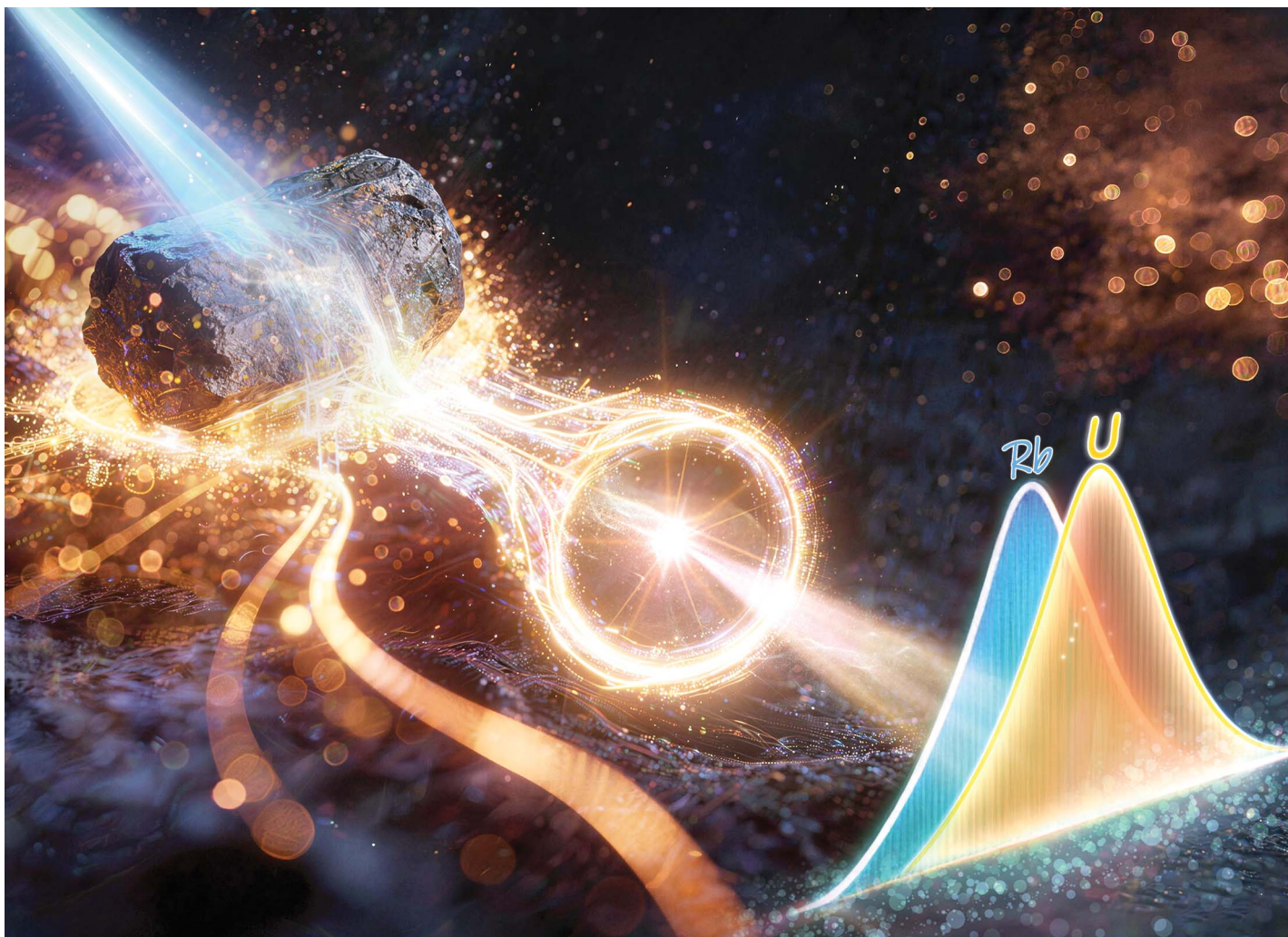


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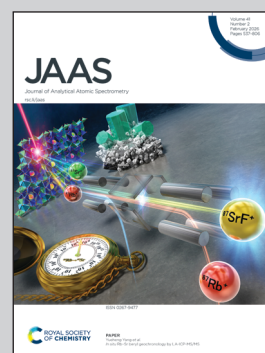
Showcasing research from Professor Zhe Wang's laboratory, Department of Energy and Power Engineering, Tsinghua University, Beijing, China.

High-accuracy uranium determination *via* functional decomposition to address matrix effects in XRF spectroscopy

Accurate uranium determination by X-ray fluorescence spectroscopy is often limited by strong matrix effects and severe spectral overlap from coexisting elements. This work introduces a functional decomposition approach to separate convoluted fluorescence spectra into elemental contributions, background, and noise components. By effectively resolving overlapping rubidium and uranium signals, the method significantly improves analytical accuracy under complex matrix conditions, providing a robust framework for reliable uranium quantification in challenging XRF applications.

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As featured in:



See Xuebin Su, Zhe Wang *et al.*, *J. Anal. At. Spectrom.*, 2026, **41**, 633.