



Poster 9

Designing a characterisation toolkit to provide frequent and objective measurement of ferrous scrap quality



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ABSTRACT:

Amongst the carbon emission reduction solutions available to the steel industry, increasing the proportion of recycled content in new steel is a method with a technology readiness level suitable for immediate deployment. There are many barriers to using more steel scrap in the production of steel, one being the ability to measure the quality (chemical composition) of this end-of-life material. This poster reviews preliminary X-Ray Fluorescence (XRF) work showing that surface contamination has an influence on the reliability of XRF results. In addition, exploratory X-Ray Computed Tomography (XRay CT) and radiography scans indicate promising results for identifying different materials to metallurgically meaningful parameters due to differing X-Ray absorption. Ready detection of extrinsic contaminants has been shown to be possible under ideal conditions. The development of this technique to more industrially representative environments with increased and more variable feedstock, will follow as an essential next step to real life use.



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