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Development of Oxygen-fuel Burner Design for Electric Arc Furnaces under Supersonic Flow Conditions

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To achieve a carbon-neutral EAF system for high-quality sheet production, rapid scrap melting is essential for efficient DRI/HBI dissolution.

This study presents an integrated oxygen lance-burner design to enhance thermal efficiency and melting kinetics.

Experimental validation and numerical simulations were conducted to assess performance and optimize key parameters, with findings and strategies discussed.

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