Contribution ID: **90** Type: **Oral Presentation**

Hot Heel estimation: How system dynamics can be used for multiple purposes

Monday 11 May 2026 15:30 (20 minutes)

The present work will show a technique for assessing the amount of hot heel or liquid heel using robust hardware. Additionally: the same data stream used for assessing the Hot Heel, can be used for looking at the integrity of a part of the EAF itself.

Many people still operate by the principle: 1 sensor to track 1 problem or 1 property. This sometimes needs to be adhered to strictly, but often one can do much more using the same data stream. Also: most people have a tendency to try and measure the property they are interested in. Very often this comes with challenges, such as high temperature, or irradiation, as encountered often in the steel industry.
The present paper provides an illustration of both principles.
The main topic is using accelerometer data for assessing the amount of hot heel in an electric arc furnace, relying on liquid dynamics inside the vessel after tilting movement. This offers the operator a tool to further optimize the energy consumption of the EAF.
Secondary to that the same data stream is used to track the integrity of the rocking movement and the components involved as well as the stability of the overall system. This allows the teams to see structural issues coming much ahead of time, and thus prevent larger damage (and costly repairs), or even sudden stops of the EAF.

Speaker Country

Belgium

Speaker Company/University

Zensor

Primary author: VAN INGELGEM, Yves (Zensor)

Presenter: VAN INGELGEM, Yves (Zensor)

Session Classification: Automation and Digitalization in Electric Steelmaking I

Track Classification: EEC 1 - Technological Advancements: EEC 1.E Automation and digitalization in electric steelmaking