

TWENTY-SECOND ANNUAL CONFERENCE

# YUCOMAT 2021

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**TWENTY-SECOND ANNUAL CONFERENCE**

# **YUCOMAT 2021**

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**August 30 - September 3, 2021**

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**Frequency behaviour of Co-based amorphous wire MI-element**

Jelena Orelj<sup>1</sup>, Nebojša Mitrović<sup>1</sup>, Vladimir Pavlović<sup>2</sup>

<sup>1</sup>Faculty of Technical Sciences Čačak, University of Kragujevac, Joint Laboratory of Advanced Materials of Serbian Academy of Sciences and Arts, Svetog Save 65, 32 000, Čačak, Serbia, <sup>2</sup>Institute of Technical Sciences of Serbian Academy of Sciences and Arts, Knez Mihailova 35, 11 000, Belgrade, Serbia

This study presents magnetoimpedance (MI) effect of Co-based amorphous wire investigated at driving frequency range  $f \in [50 \text{ Hz} - 5 \text{ MHz}]$ . The XRD pattern and EDX analysis confirmed amorphous structure and the main element content of CoFeSiB alloy. The critical frequency of about 7 kHz was observed as the point with the initial increase of magnetoimpedance. A maximum MI-ratio  $[Z(0) - Z(H_{\max})] / Z(H_{\max})$  of 334 % is attained at driving frequency of 900 kHz @  $H_{\max} \approx 4.63 \text{ kA/m}$ .