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Determination of crystallization conditions of nano-crystalline soft magnetic ribbons MICHAEL TITUS, The Ohio State University — Many soft magnetic nano-crystalline materials exhibit properties of high magnetic induction, low coercivity and low losses. These properties are key for many electrical device applications in the frequency range of 15-30 kHz. The material obtained for the current study belongs to the Finemet family FeCuNbSiB and was grown as amorphous ribbons using rapid solidification methods. The amorphous ribbons are crystallized into the nano-crystalline state through suitable heat treatment. This presentation will describe studies for determining appropriate heat treat conditions using temperature dependent x-ray crystallography, magnetization tests and microstructural analysis.

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