Title: *In-situ time-resolved 4D Synchrotron X-ray microtomography investigation of bread baking using a modified combination microwave oven*

Abstract: A combined microwave-convection oven (Electrolux OOM1000CZ) was modified and adapted to conditions at TOMCAT beamline (PSI, Villingen, Switzerland), with the aim to perform in-situ time-resolved 4D Synchrotron X-ray microtomography (SRμCT) of the baking process. The presentation will show how this was done, together with results from a pre-study on bread baking using conventional and microwave heating. Examples of beamline data analysis will also be shown. Baking results' dependence on baking technology and on flour protein content will be presented. The project was a collaboration between RISE, Abdon Food and Division of Solid Mechanics, Faculty of Engineering at Lund University, with funding from Vinnova, Sweden's innovation agency (Ref. number: 2019-02572).

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