

**Quantification of
fluid-structure interaction effects
during water hammer in piping systems**

**Quantifizierung der
Fluid-Struktur Wechselwirkungseffekte
bei Druckstößen in Rohrleitungssystemen**

Der Technischen Fakultät
der Friedrich-Alexander-Universität
Erlangen-Nürnberg

zur
Erlangung des Doktorgrades Dr.-Ing.

vorgelegt von

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aus Forchheim

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Preface

This thesis was created during my employment as research engineer at the Institute of Process Machinery and Systems Engineering of the Friedrich-Alexander-Universität Erlangen-Nürnberg. I would like to thank several people who contributed to the successful completion of my thesis.

The first person is my supervisor Prof. Dr. Stefan Becker. I know him for nearly ten years now – from the basics of fluid mechanics to the defense of my thesis. He sparked my interest in fluid flows and helped me with my employment at the institute. We had a lot of constructive discussions and I appreciate his sociable character. Furthermore, he gave me a lot of freedom considering my scientific research. Thank you Stefan! I am glad that we stay in contact because of a joint project.

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When you work with a 70 m long test facility, you need support with various tasks such as design, construction, measurement technology and montage. Fortunately, I found a lot of help from lots of people at the institute: Claus Bakeberg, Alexander Beer, Werner Sippl, Piotr Reichel-Lesnianski, Oliver Weisert, Werner Polster, Bao Dinh Nguyen, Stefan Grünwald, Alexander Reichenberg and Florian Holler. Thank you!

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Forchheim, in December 2016
Stefan Riedelmeier

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