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# KOLLOQUIUMSVORTRAG

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## A STUDY OF TEACHERS' KNOWLEDGE OF DECIMAL EXPANSION OF REAL NUMBERS

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### **ABSTRACT**

In the presentation, we first review the construction of natural numbers, integers, rational, and irrational numbers, and the operations between these numbers. The fundamental role of the notion of set and set theory in mathematics is emphasized through employing the notion of set and rules of set theory in constructing numbers. We then give a summary of the decimal expansion of real numbers, give some facts concerning non-terminating decimals, and discuss some questions about these numbers. A brief review of the literature on studying students' and teachers' understanding of real numbers is then presented. The lack of research projects on the topic of decimal numbers, especially, non-terminating ones is then established. This specifies the aim of our study on pre-service teachers' knowledge and pedagogical content knowledge of (decimal) real numbers. Finally, research questions are investigated and a summary of the methodology and the participants is presented.