

A U S H A N G

FREIE UNIVERSITÄT BERLIN
Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

DISPUTATION

Freitag, 2. Dezember 2016, 10.00 Uhr

Ort: SR 009, Arnimallee 6, 14195 Berlin

Disputation über die Doktorarbeit von

Herrn Matthias Waidmann

**Thema der Dissertation:
Towards a Strictly Conservative Hybrid Level-Set Volume
of-Fluid Finite Volume Method
for Zero Mach Number Two-Phase Flow**

**Thema der Disputation:
Math of Drumming**

Die Arbeit wurde unter der Betreuung von **Prof. Dr.-Ing. R. Klein** durchgeführt.

Abstract: At first glance the math involved in playing drums does not seem to go beyond rational numbers. While this might be true at the conscious level of the drummer, there is much more math involved for sure: Besides of the complexity of describing the sound generation process of drums and cymbals - both multi-dimensional vibrating systems - mathematically, several interesting questions have been raised in the scientific literature related to drums and drumming involving advanced math. Among them is the question "What makes a beat a groove?". Finding answers to this question in a systematic way - involving time series analysis - can contribute to improved musical education and to generation of "humanized" drum machines for digital music recording.

Die Disputation besteht aus dem o. g. Vortrag, danach der Vorstellung der Dissertation einschließlich jeweils anschließenden Aussprachen.

Interessierte werden hiermit herzlich eingeladen

Der Vorsitzende der Promotionskommission
Prof. Dr.-Ing. R. Klein