



PHYSIKALISCHES KOLLOQUIUM

des Fachbereichs Physik
der Johann Wolfgang Goethe-Universität Frankfurt

Mittwoch, den 25.05.2016, 16 Uhr c.t.
Großer Hörsaal, Raum _0.111,
Max-von-Laue-Str. 1



Prof. Dr. Joachim Weickert
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*"Image Processing and Computer Graphics
with Models from Physics"*

Most processes in physics can be described by relatively simple laws, follow certain optimality principles, and enjoy a number of invariances. Since these properties are also desirable for most visual computing applications, it is not surprising that physics has provided fascinating inspirations for many algorithms. In this talk we will explore three applications that have been developed in our group and that rely heavily on models from physics: We use simple principles from electrostatics to design well-performing halftoning algorithms, and we show how heat conduction can inspire novel methods for data compression. Finally we generalise concepts from drift-diffusion processes to design powerful methods for image editing. All these algorithms are highly flexible and belong qualitatively to the leading methods in their class.

Die Dozenten der Physik

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