**Oberseminar Theoretische Informatik**
Sommersemester 2008

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# Minimizing Absolute Gaussian Curvature Locally

Monday, May 26 at 2pm (c.t.) in room 3319 (Ernst-Abbe-Platz 2, floor 3).

I will show that given a polygonal curve $C$ in $\mathbb{R}^3$, it is in general algebraically hard to find a point in $\mathbb{R}^3 \setminus C$ at which the absolute Gaussian curvature with respect to $C$ is minimized. Algebraically hard means that in general an optimal solution is not constructible, i.e., there exist no finite sequence of expressions starting with rational numbers, where each expression is either the sum, difference, product, quotient or $k'$th root of preceding expressions and the last expressions give the coordinates of an optimal solution. This essentially only leaves to approximate such an optimal point. I will sketch an approximation scheme for the minimum value of the absolute curvature.

Homepage:
http://theinf1.informatik.uni-jena.de/teaching/ss08/oberseminar-ss08