Random surface

Geometry of

Algebra and
And many other worlds, too.

Of our whole world

Includes the study

The subject of random surfaces
Surface area
that minimized discrete interfaces

- no overlappings
- of a cube
- glued out of 3 sides

Stepped surfaces are
Among the simplest random surface models are
- Because we can.
- Physics
- Advanced high-energy
- Comes up in pretty
- Interfaces
- Models of crystalline
- Simple, but realistic

...We study them because...
Let $\mathbf{K}$ be a linear algebraic group. Around 1960, Kastelven Shroeder and boundary given with boundary.

And namely, stepped surfaces.
The adjacency matrix \( K : \mathbb{R} \rightarrow \mathbb{R} \) of this graph of perfect matching/dimer cover a stepped surface is that is, 2 triangles is a union of this picture is a union of every rhombus in this way. Thus Kasteleyn matrix \( K \) is defined as follows:
Some fixed places

Find rhombi/films

correlation functions

Corollary
Rick Kernon

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proba 
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who 
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invert 
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Teacher, I want 

Stoppped surfaces 
To learn about
Inverting $K$ is not entirely trivial, e.g. because stepped surfaces do something interesting as they get large...
to the atomic scale

fact, ordered down

coordinate directions in $\mathbb{R}^3$

boundary in

boundary

boundary with

surface stepped

freezable boundary

boundary of large numbers

Law of Large Numbers

of Cohen-Lawson-Poppp Circle "s" vertices

Cardiac

is here a
In fact, some time ago, we proved

Theorem [Kenyon 0.] Take a random stepped surface bounded by 3d segments in coordinate directions (cyclically repeated). As mesh → 0, these will have a limit shape with

Frozen boundary = (rational curve $Q$) $^\vee$ dual

Further, $Q$ determines the limit shape by ...
Influence means boundary to the tangency is found from boundary conditions as follows.
only I will yield & that is inscribed large, but finite number of possibilities

- rational
- meeting 3d given points
- plane curve of degree d

So a should be
In every possible sense

Thus each equation is a quantization of a of a.

Each argument can additively differ from the equation in question boundaries $K, (\cdot, \cdot)$ satisfies.

For polynomial boundaries $K, (\cdot, \cdot)$ satisfies.

Finally, we come to the main point of this lecture:
An excellent counter over K-1 large domains / small mesh. This provides
and finds its asymptotics for
Satisfies a generalization of the function of the boundary. We will see it

In Lecture 2, we will discuss

Before we make this precise, here is the outlook.
Before we make this precise, here is the outlook...

- In Lecture 3, we will talk about $\hat{Q}$ as a successful example of higher genus mirror symmetry, and will try to draw some conclusions from it.

...Now back to math....
Therefore, we might as well study groupoids...
Kastelijn's theorem concerns

\[ \text{parameter} > 0 \]

volume enclosed

As follows...
Recall (Fourier transform)

\[ \hat{f}(t) = \int_{-\infty}^{\infty} f(x) e^{-2\pi i xt} \, dx \]

The old K = multifractalization by \[ x^1 + x^2 + x^3 \]
noncommutative $\mathbb{A}$, one of the simplest $\mathbb{A}$

$$x_1^2 = 0 \iff x_2^2 = 0$$

When $\mathbb{A} = \mathbb{Q}[x_1, x_2, x_3]$

$$A = \mathbb{C}(x_1, x_2, x_3)$$

In $\log x_1 + x_2 + x_3$, the new, weighted $\kappa$ is right multiplication.
and act by different group actions. In our case

Anonymous

Left and right multiplication commute
with \( x(\mathbb{P}^1) = \text{dim } K - k \), meaning

degree \( d = \deg \mathbb{P} \) curve " Line bundle \( L \) on \( \mathbb{P} \)" Moreover, it is a torsion (means difference equations) in a polygeneric domain \( \mathbb{P} \) is \( \text{Ker } K \) a module \( \mathbb{A} \) generated by theorem The left A-module \( \mathbb{A} \).
on $\mathbb{P}^2$ with $\mathcal{I} = 0$, $\text{c}_1(\mathcal{I}) = \mu$, $\text{c}_2(\mathcal{I}) = 0$, $\text{c}_3(\mathcal{I}) = 0$. The free resolution for a generic $\mathcal{I}$ is as follows:

\[
0 \leftarrow \bigwedge^2 \mathcal{I} \leftarrow \bigwedge^1 \mathcal{I} \leftarrow A(-1)_{d-2} \leftarrow A(-2) \leftarrow 0
\]

This map tells us that the form of the resolution is of the form $\chi = 1$ that it has a presentation. So for $\chi = 1$, the resolution...
More tomorrow, ...

What would "rational" mean if we knew 3D points that fit meets 3D points degree. We know its degree is how do we find out what is it?