

Videos topológicos de Jos Leys

Escrito por Marta Macho Stadler
Jueves 11 de Marzo de 2021 08:00

No es la primera vez que hablamos en ::ZTFNews del ingeniero y artista [Jos Leys](#). Sus extraordinarias animaciones de diferentes nociones matemáticas son una delicia: bellas y técnicamente perfectas. Recordemos las de

[Dimensions](#)

,
[Caos](#)

, sus
[fractales](#)

(y
[más fractales](#)

), sus
[teselaciones](#)

o la
[banda de Möbius en relación con un canon retrógrado de Bach](#)

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Galleries :



The Klein bottle

Construction of a Klein bottle by joining the edges of a rectangle.

Added on 2010-02-10



Moebius-Klein

Two Moebius strips make a Klein bottle

Added on 2010-02-10



The figure 8 Klein bottle

The less-known form of the Klein bottle...

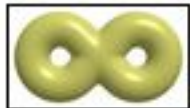
Added on 2010-02-10



Multiple Klein bottles

Linked Klein bottles. Note that the number of bottles needs to be uneven in order to have a boundary surface.

Added on 2010-02-10



From an octagon to a genus 2 surface

An octagon can be bent into a genus two surface (a surface with two holes) by joining the sides with the same colour..

Added on 2010-02-10



From a 16-gon to a genus 4 surface

A polygon with 16 sides can be formed into a surface, a surface with 4 holes.

Added on 2010-02-10



From a 40-gon to a genus 10 surface.

A polygon with 40 edges can be bent into a genus 10 surface (a surface with 10 holes).

Added on 2010-02-10



The real projective plane and the real projective plane minus a disc

The real projective plane minus a disc is homeomorphic to a Möbius strip.

Added on 2010-02-10



The cross-cap.

The construction of the cross-cap.

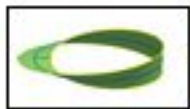
Added on 2010-02-17



The Boy surface

The construction of a Boy surface.

Added on 2010-02-17



Moebius strip and cross-cap

Visual proof that a Moebius strip is homeomorphic to a cross-cap with a disc removed.

Added on 2010-03-01



The Klein Quartic II

The transition from a hyperbolic 14-gon surface, while preserving the tiling by 2-cells.

Added on 2010-02-10



Connected sum of two real projective planes

Visual proof that the connected sum of two real projective planes is a Klein bottle.

Added on 2010-02-10



Connected sums of real projective plane and torus or Klein bottle.

Visual proof that the connected sum of a real projective plane and a torus, and the connected sum of a real projective plane and a Klein bottle are homeomorphic.

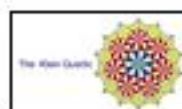
Added on 2010-02-20



Dodecahedral tessellation of the hypersphere

A dissection of the 120-cell in twelve rings of 10 dodecahedra. Two sets of six rings form two solid interlocked tori. The film starts by showing the 600-cell, the dual of the 120-cell.

Added on 2010-02-21



The Klein Quartic I

How this hyperbolic tiling can be folded into a surface.

Added on 2010-02-10

<http://www.marta-macho.com> <http://www.youtube.com/user/marta-macho>
