HOW VIRTUAL BECOMES REAL

Discretise a NURBS surface into a structural diagrid (*G_01)*

Production hall, Shukhov, Vyksa, 1897-98

Further details in: M. Beckh, R. Barthel, *The First Doubly Curved Gridshell Structure - Shukhovs Building for the Plate Rolling Workshop in Vyksa*, Proceedings of the Third International Congress on Construction History, Cottbus, May 2009.

DG Bank, F. GEHRY and SBP, Berlin, 2000

King's cross station, JOHN MCASLAN and ARUP, London, 2012

Smithsonian Institution, FOSTER + PARTNERS, Washington DC, 2004-2007

Palazzetto dello Sport, NERVI, Rome, 1960

RELATED TUTORIALS

Start from a form-found surface

Video-tutorial G_01.2
"Form-finding in Karamba"
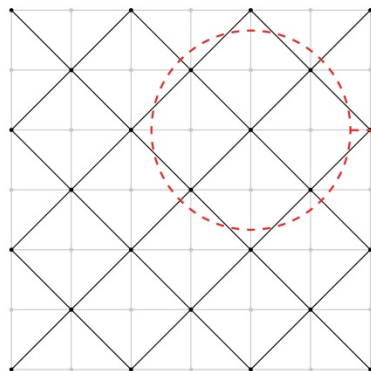(dynamic relaxation)

Discretise a surface of translation

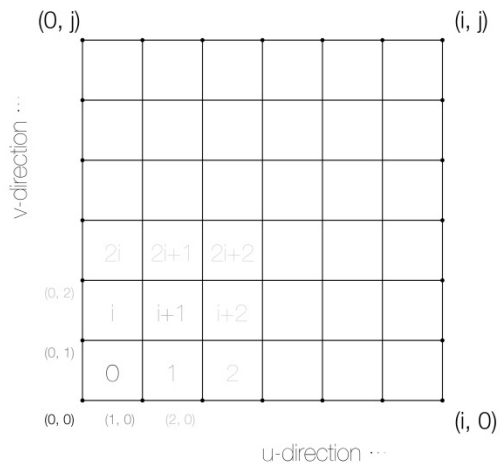Video-tutorial on the
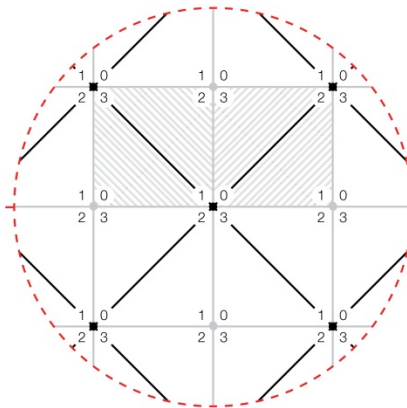"Hippo house" case study
(planar quads)

Special patterns

Separate video-tutorials on the
"Great court of the British Museum",
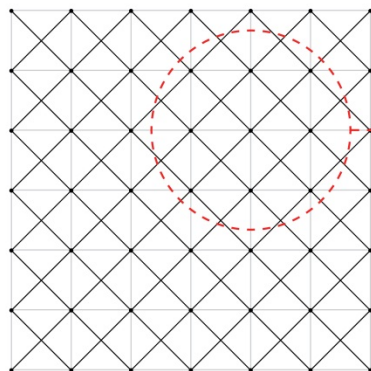"Dutch National Maritime Museum",
etc.

u,v SUBDIVISION

$(0, j)$ (i, j)

v-direction ···

$2i$ $2i+1$ $2i+2$

$(0, 2)$

i $i+1$ $i+2$

$(0, 1)$

0 1 2

$(0, 0)$ $(1, 0)$ $(2, 0)$ $(i, 0)$

u-direction ···

0-2 v 1-3

good

DIAGRID CONNECTIONS

0-2 ∧ 1-3

Base surface

Srf

U, V subdivision

U Count ◇ 11

V Count ◇ 11

Divide

SubSrf

Output lines

Output lines

Edge Beams