



ALCOVED POLYHEDRA: NEW SHAPES FOR DESIGN

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ABSTRACT of poster

Alcoved polyhedra make a class of beautiful tangible convex sets, easy to describe through either a) facet equations or b) only four vertices, called generators. In the maximal case they have 20 vertices, 30 edges and 12 facets. They are irregular dodecahedra. They can be easily handled via matrices (4x4 visualized normal matrices, idempotent with respect to tropical multiplication) using MATLAB. They are canted boxes, i.e., perturbed boxes. To cant means to bevel, to form an oblique surface upon something.

They can have applications to design, science, architecture and engineering.

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References

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