

## Numerically inflating air domes

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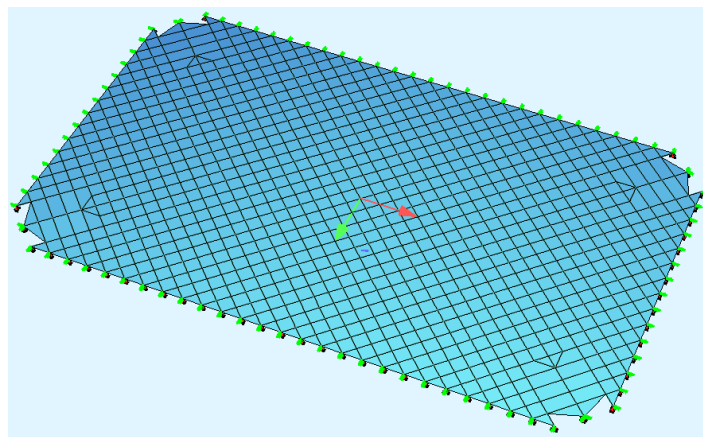
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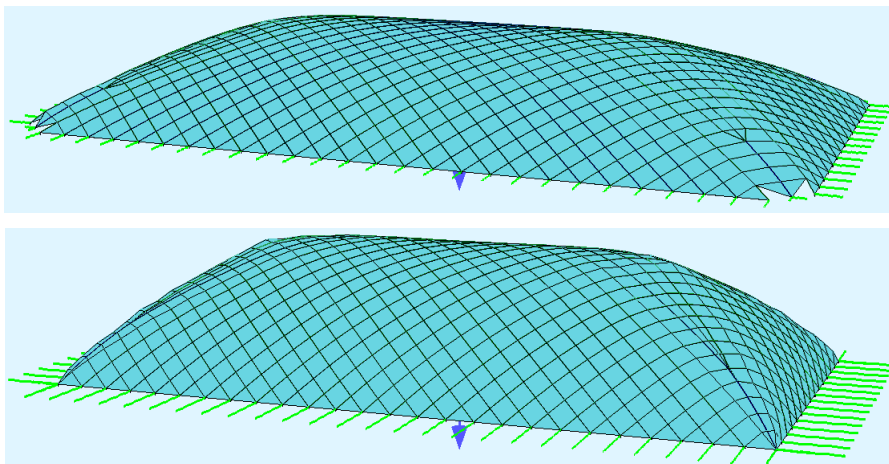
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### Abstract

This document shows how to analyze the inflating process of a cable reinforced air dome. The main intention is not the calculation itself but the advantage of defining a regular cable net in the ground view. With this method the definition of a regular mesh on a double curved surface can be simulated. The first picture shows the regular cable mesh in the ground view,



the following pictures show an inflating stage and the final stressed cable net including the membrane:



The advantage of a cable net reinforced membrane is the possibility to achieve a nearly straight roof height in the middle part of the dome.