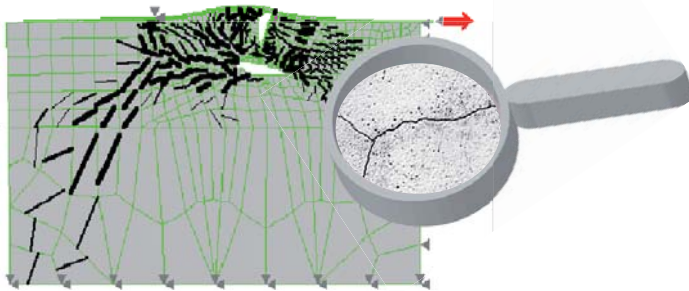


SBETA-AT3D

Non-linear Simulation of Concrete and Reinforced Concrete

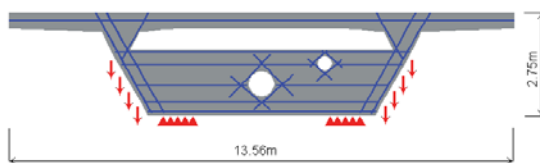


Simulating a crack propagation of a reinforced concrete structure *

Today, unconventional architecture and the cost aspect in particular require the reliable assessment of ultimate states of concrete and reinforced concrete.

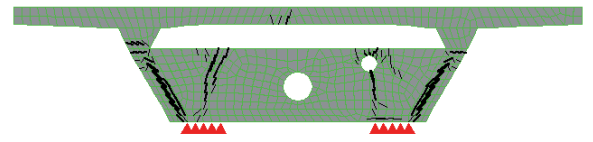
Also including stochastic methods, **ČERVENKA CONSULTING** have developed **SBETA-AT3D**, a FEM-program specializing in the non-linear simulation for crack propagation, stability and structural failure of reinforced concrete.

On the basis of latest know-how gained from material research material models have been developed for **SBETA-AT3D** which are capable of simulating the characteristic failure modes of concrete and reinforced concrete.



Mathematical model of a bridge with steel reinforcement *

For reinforced concrete structures not only operating, but also fracture conditions and reinforcement creep can be analyzed.



Crack propagation *

SBETA-AT3D is particularly suited to analyze damages, including the simulation of the behavior of concrete under fire. Finally, in order to avoid longsome testing **SBETA-AT3D** can be used as “virtual laboratory”. For the simulation of heat and moisture transport, creep and shrinkage specialty modules are available in **SBETA-AT3D**.

In combination with a probabilistic program **SBETA-AT3D** becomes **SARA**, the acronym means **Structural Analysis and Reliability Assessment**. The program allows for the probabilistic investigation of structures by means of non-linear material models.

For the modeling of more complex geometries and for postprocessing we recommend to use **FEMAP**.

[REMARK: Due to an existing trademark protection of company Atena Engineering GmbH, Munich, we are not allowed to distribute this software using its original name in Germany. It is therefore distributed under SBETA-AT3D]

* By courtesy of