

Finite Element Method for tooth stress analyses.

Stepan V. Lunin. 2003.

The stresses and deflections are calculated on a Windows™ based program. The author used Visual Basic for coding of finite element algorithm and OpenGL for visualization of the results.

FEA modeling data:

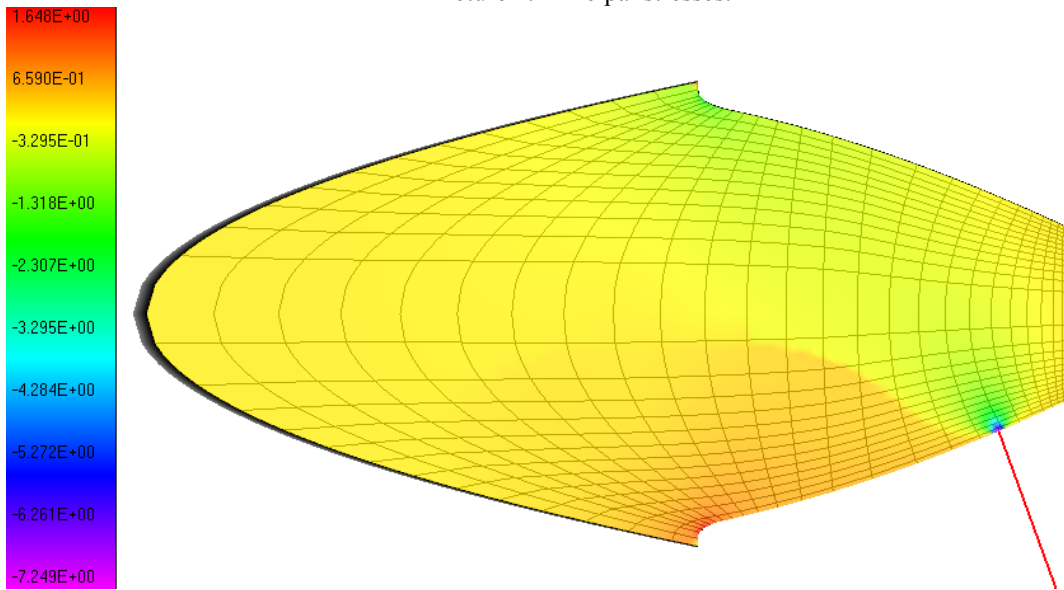
Number of elements: 17544

Type of the elements: quadrilateral isoparametric

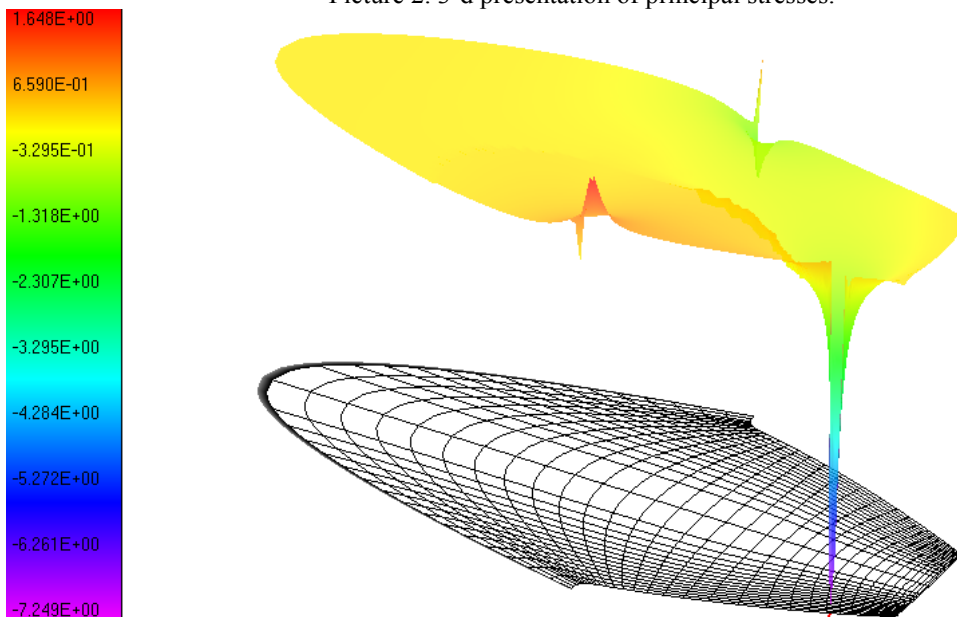
Gauss quadrature calculation: 4 points

Method of stiffness matrix solving: exact Gauss elimination.

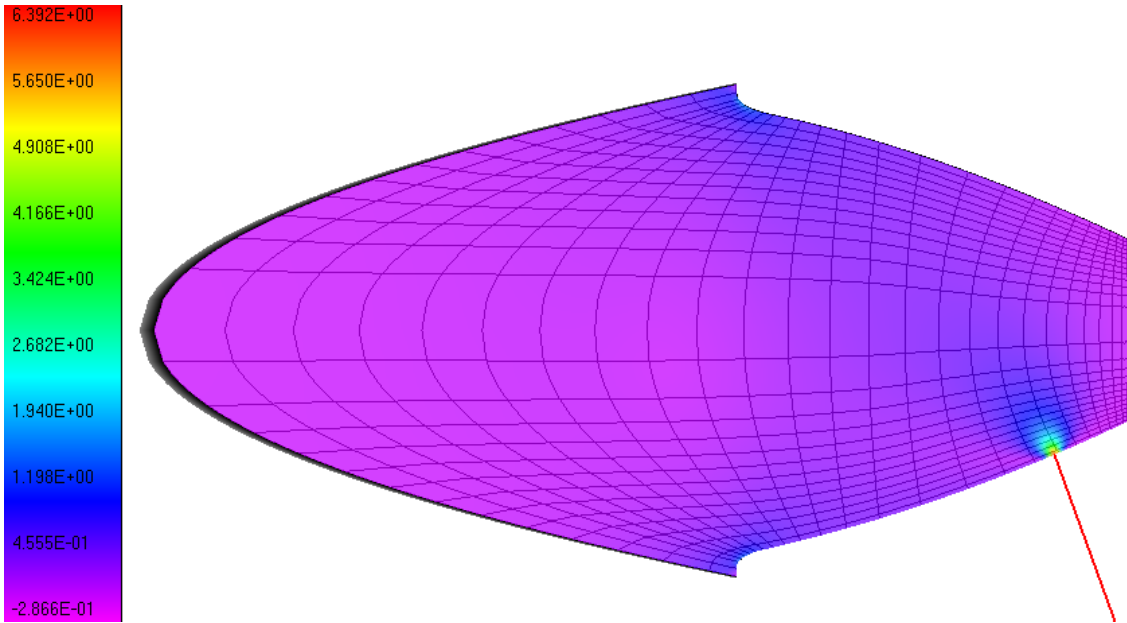
Picture 1. Principal stresses.



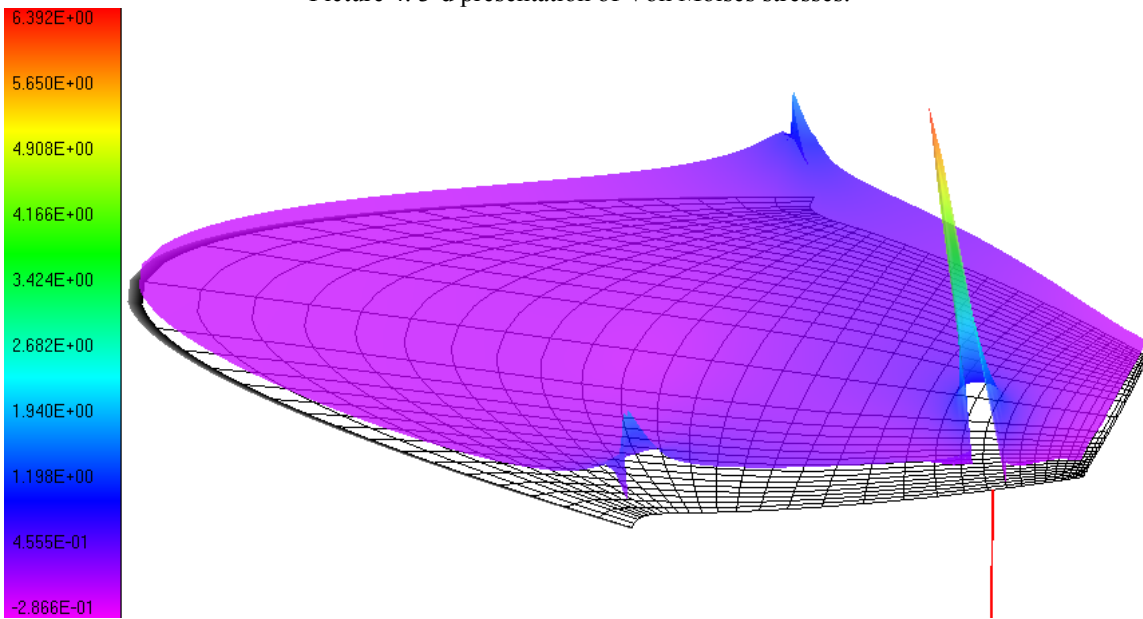
Picture 2. 3-d presentation of principal stresses.



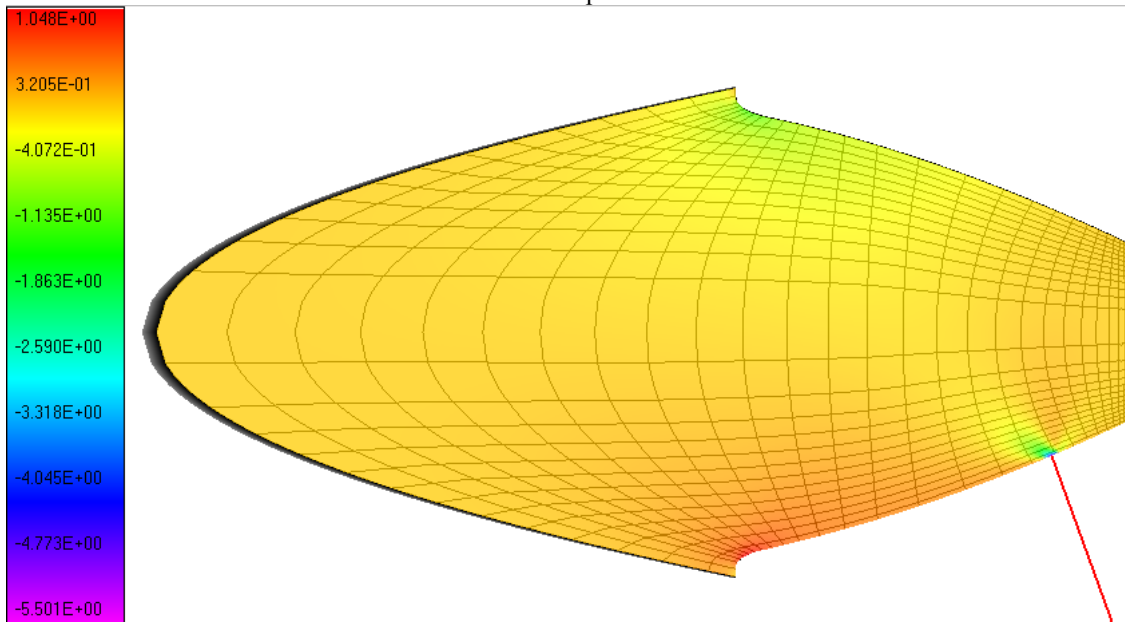
Picture 3. Von Moises stresses.



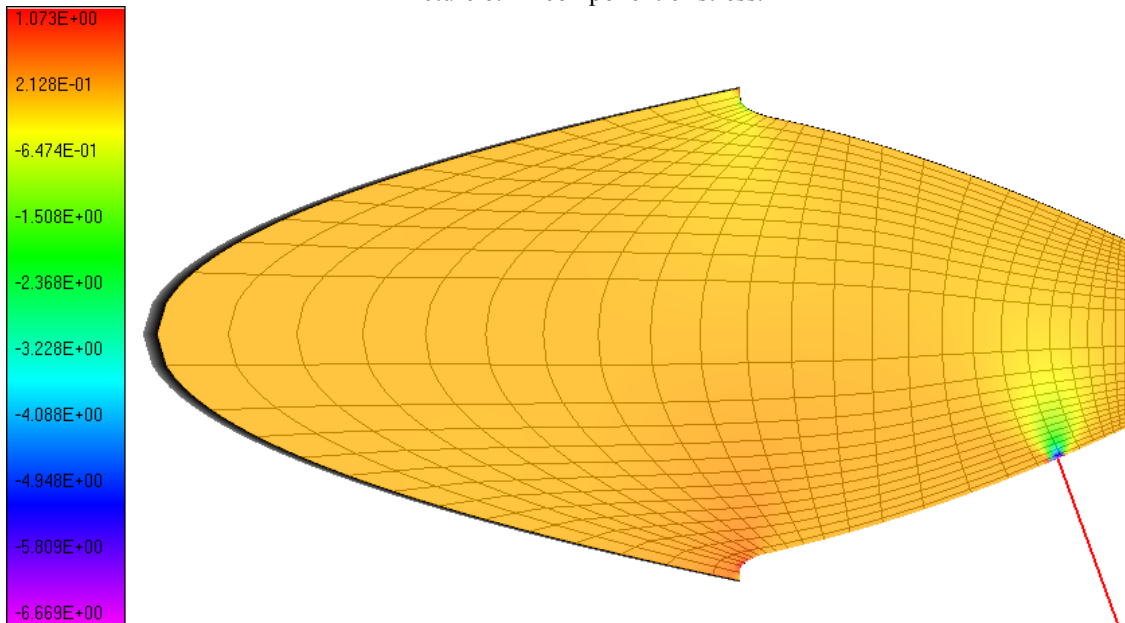
Picture 4. 3-d presentation of Von Moises stresses.



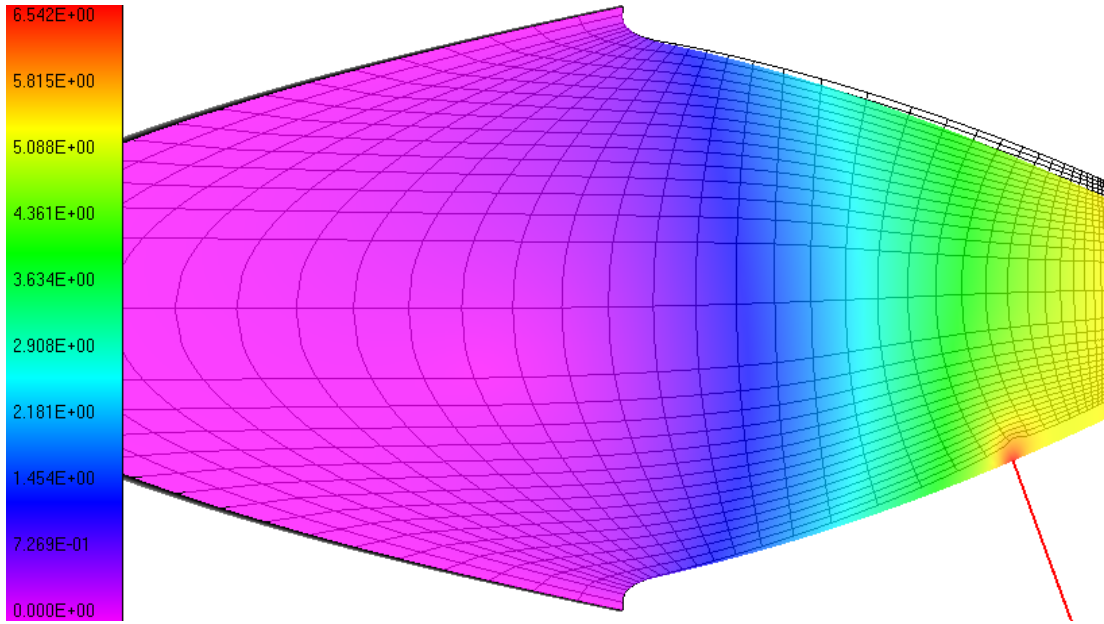
Picture 5. X-component of stress.



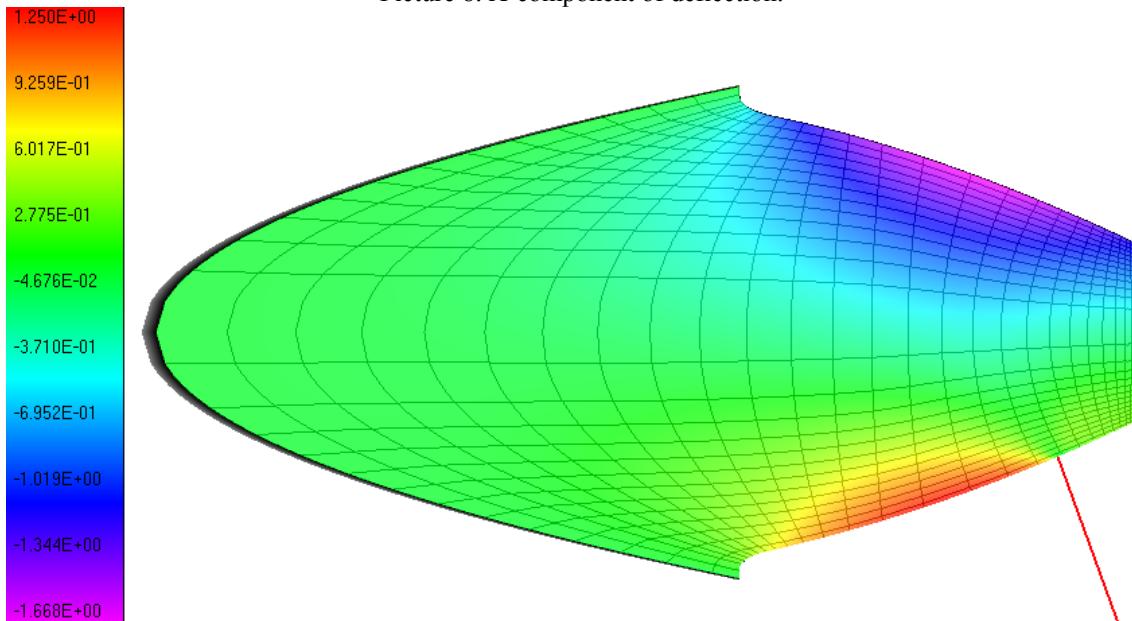
Picture 6. Y- component of stress.



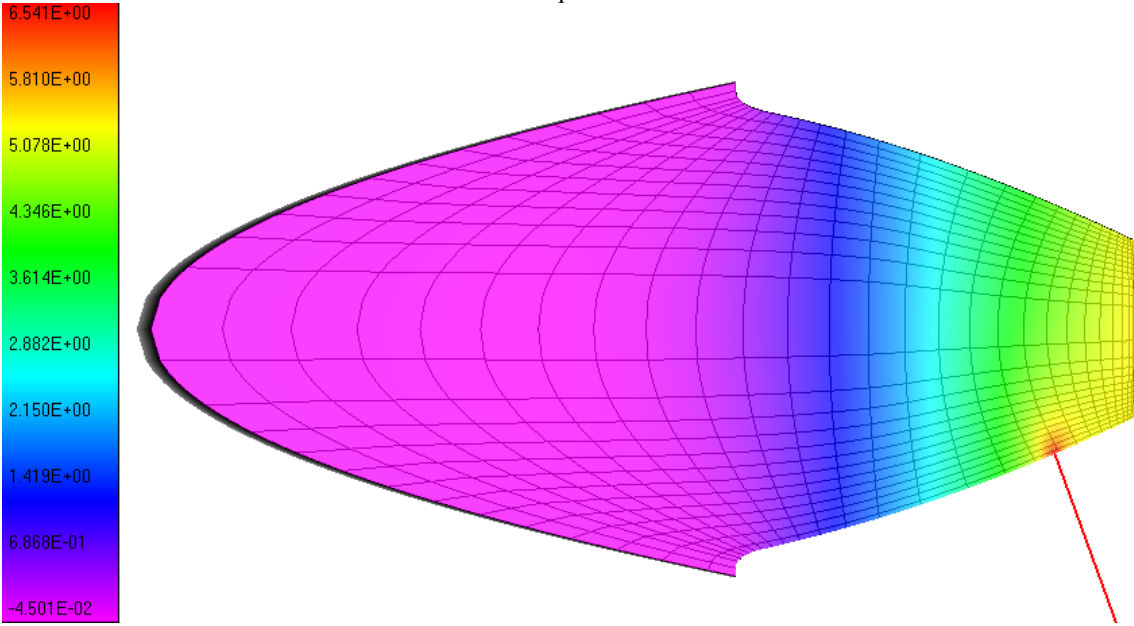
Picture 7. Deflections.



Picture 8. X-component of deflection.



Picture 9. Y-component of deflection.



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