

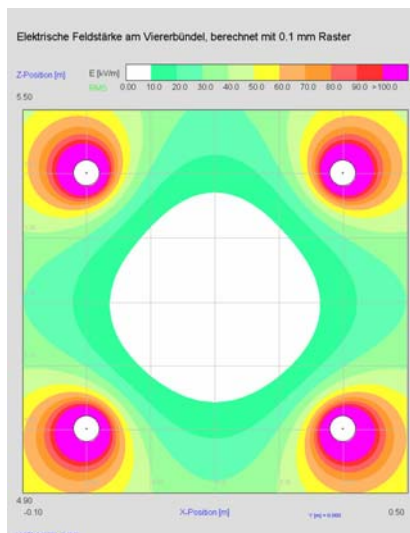
EFC-400[®] Sound - Audible Noise Calculation

Power Transmission Lines and Terminal Stations

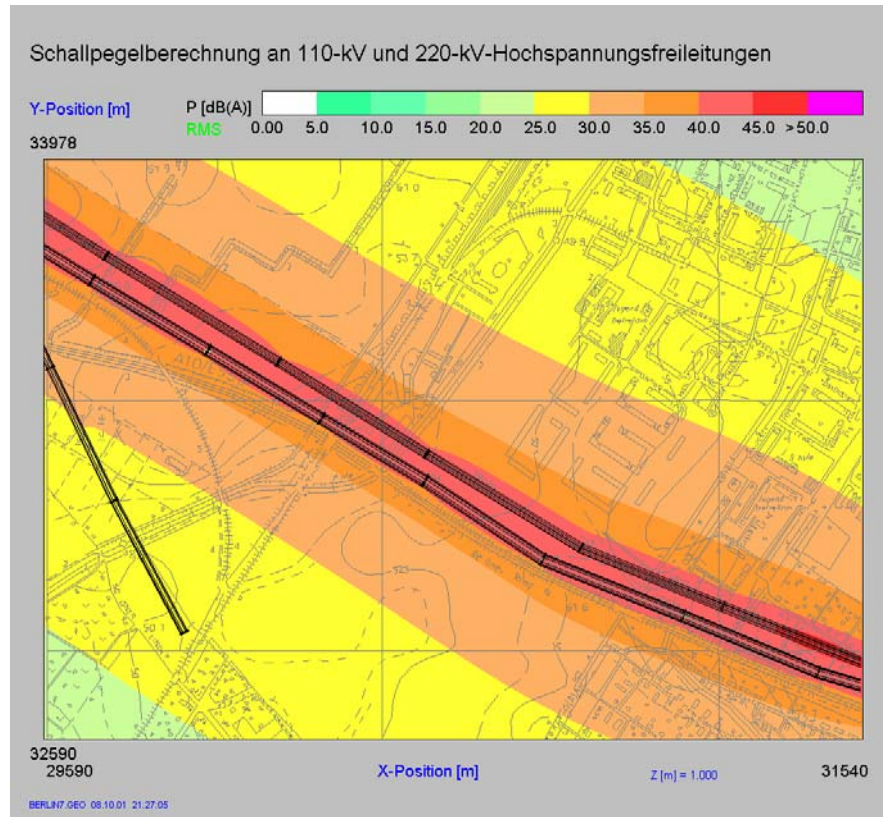
'EFC-400 Sound' is the solution for free air plants of the energy industry, which emit sound and RF interference levels caused by corona discharges due to the electric field strength. The essential features are:

- Electric field strength at Transmission Lines and Terminal Stations
- Surface field strength at Wires
- Acoustic Noise Level after different Methods
- RF Interference Level
- Phase optimization for Transmission Lines
- Measurement Data Import and Interpolation

'EFC-400 Sound' is based on the field calculation routines and the user interface of 'EFC-400'. An exchange of data also with 'EFC-400 Station' is ensured therefore.



Illus.: surface field strengths of 4 wires



'EFC-400 Sound' in addition to the calculation of the electric ground field strength determines the surface field strengths in 100 points on the surface of every conductor or conductor segment. These exact surface field strengths serve as input data for the noise and RF level calculation, while conventional procedures assess the surface field strengths only by means of 'hand formulas'.

The employed methods for the level calculation correspond to different sources, all based on empirical examinations, can be selected by the user. With the chosen formula the sound level is determined due to the part-conductor method by the fact that the noise potential is calculated by scalar addition of the spatial distributions of all single segments. The method can treat arbitrary conductor

configurations under consideration of the sag. The procedure does justice to the orientation, the separation and the surface field strength of every single segment.

The results are represented as iso-lines just like the electric field strength. The sound level can be read out at every position below an overhead transmission line or within a terminal station. With increasing number of segments the results converge towards a limit value, just like the calculation of the electric field strength. The procedure is implemented for alternating current and direct current.