

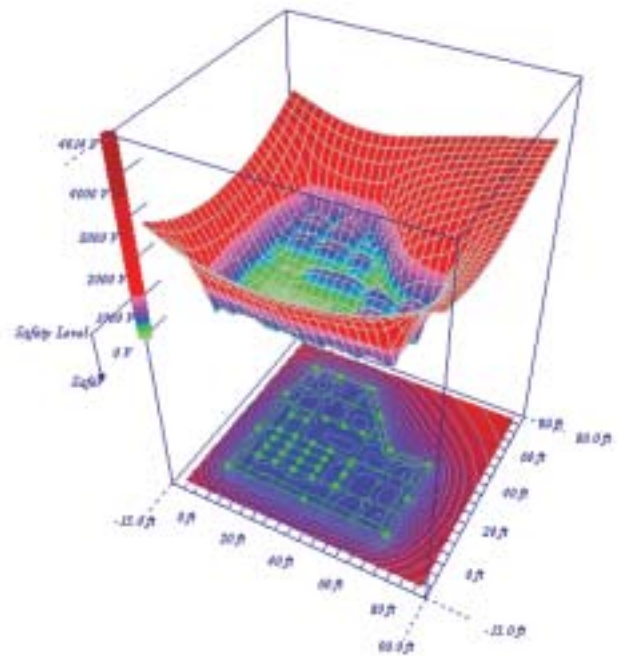
PTW GroundMat

Electrical Grounding Analysis

PTW GroundMat is a program for substation ground grid design and analysis. It is designed to help optimize grid design or reinforce existing grids of any shape. It uses a general-purpose finite element algorithm for potential analysis and graphical facilities to validate ground system efficiency.

Benefits

- Design safer and more cost effective ground grids.
- Save time with graphical entry and display.
- Communicate designs more easily with professional reports and graphs.
- Evaluate alternatives quickly and easily to establish an optimal design.
- Save time with design wizard capabilities.
- PTW GroundMat is an important tool every power system engineer should have.



Solution Algorithms

- Finite element analysis of the ground conductors.
- Finite element analysis of the ground rods.
- Grid conductor current displacement using Matrix analysis.

Analysis Options

- Earth model analysis from field measurements.
- User specified fault current.
- Grid and Ground potential analysis.
- Ability to analyze multiple ground systems.
- Ability to analyze the potential rise for each ground system including neighboring passive grids or rods.
- Safety analysis including surface materials, based on body with and exposure time.
- Option IEEE Guide 80/IEC 490 for safety analysis.
- Calculation of maximum permissible touch and step voltages.
- Comprehensive report for grid and rod configuration.
- Comprehensive report for surface potential analysis featuring station data, and currents diffused to ground by the grid elements.
- Danger point evaluation.
- Touch and surface potential analysis.

Interface Options

- Create and store alternative designs with a simple copy/paste.
- Data entry for grid and rods in spreadsheet format.
- Data entry for earth model in spreadsheet format.
- Grid/rod/profile wizards to setup initial system.
- 3D/2D representation of grid and rod configuration.
- Report viewer.
- Cut, copy and paste grid/rod segments in spreadsheet.
- Range-checking for simulation parameters.
- User-defined thresholds for danger area evaluation.
- User-defined color coding for graphical safety analysis.
- Metric and English units.
- Group print function.

Project Setup Options

- Stores multiple study revisions for each project.
- Expanding tree structure to manage project revisions.
- Input data and output results saved for each study.
- Copy, paste and rename study revisions to compare alternative designs.
- Run studies for multiple study revisions as a single action.