

## **MODELING OF METALLIC STRUCTURES**

1. Metallic structures can be modeled by combining different types of wires and wire grids:  
Wires: Straight wire, Circular arc, Circular loop, Helix, Quadratic wire, Archimedean spiral, and Logarithmic spiral.  
Wire grids: Plate, Disc, Flat ring, Cone, Truncated cone, Cylinder, Sphere, and Paraboloid.
2. Curved wires can be modeled by means of arced and quadratic segments.
3. Wire grids can be used to model grids and approximate conductive surfaces.
4. All wires can be loaded or excited at any position.
5. The structure can also have finite conductivities.
6. Electrical connections of different wires and connections of several wires at one point are possible.
7. Metallic wires in either dielectric or magnetic media can be analyzed.
8. The structures can be placed in free space as well as over a perfectly conducting ground plane. The effect of a real ground on the near and far fields radiated from the structure can also be computed.
9. The wire cross-section can either be Circular, Square, Flat, Elliptical or Rectangular.
10. The geometry modeling can be performed in suitable unit systems ( $\mu\text{m}$ , cm, mm, m).