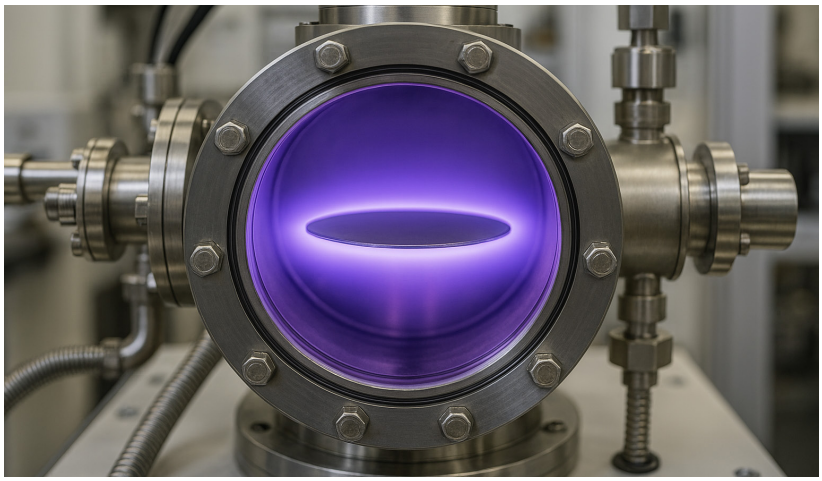
EMA

RF Plasmas

Simulating RF plasma deposition optimizes parameters, predicts issues, and improves material properties. EMA leverages Ansys Charge Plus to model gas injection, plasma formation, and surface interactions, enabling faster deposition, chamber scaling, quality assurance, and advanced process optimization for complex multiphysics challenges.



Application Areas:

- High voltage engineering
- High current/ low voltage switches
- Space radiation effects
- Particle beam generation and dynamics
- RF amplifiers
- Packing industry
- Medical X-ray devices
- Semiconductor manufacturing
- Electrical discharge machining
- Vacuum and rarified gas systems
- Electronics industry
- Plasma torch/ gas heating

Benefits:

- Increase the size of the manufacturing chamber to handle more wafers
- Ensure the quality and homogeneity of the deposition
- Improve the speed of deposition
- Develop new deposition processes and optimize existing setups
- Assess the quality of plasma generated by third party hardware
- Avoid electrostatic discharge and resulting damage to equipment
- Obtain plasma species velocities at wafer surface for accurate surface reaction simulations