

## Learning Module

# CST Studio Suite - Charged Particle Applications

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Throughout this course you will become familiar with the use of the Charged Particle Module. You will be able to use and run the different solvers available within the CST STUDIO SUITE environment. This training course is well suited for the design of vacuum electronic devices, the Accelerator community and any applications taking into account the propagation of a charged particle beam under vacuum or a dispersive media like a plasma. The Multipactor analysis is also one of the capabilities of this tool.

### Objectives

Upon completion of the course you will:

- Understand how to define a Particle Source and apply the Available Emission Models to it.
- Load Different Types of Precalculated Fields for the Particle Simulation.
- Use the Different Postprocessing Capabilities to read out Fields and Particle Result Data.
- Use and run the Tracking and the PIC solver. Be familiar with the Wakefield analysis for Accelerator components.
- Characterize material properties such as the secondary electron emission.

### Knowledge Prerequisites

Introduction to CST STUDIO SUITE.

### Brands

Simulia

### Available Releases

SIMULIA 2021, SIMULIA 2020, SIMULIA 2019

### Duration

8 hours

### Discipline

CST Studio Suite

### Language(s) for selected release

English

## Contents

Overview - CST Studio Suite - CPD

1 - Introduction to Charged Particle Dynamics

2 - Supporting RF and Static Solvers

3 - CST Particle Studio Solvers

4 - Workshops