## CAS course on Basics of Accelerator Physics and Technology, 11 - 15 March 2024, Ferney-Voltaire, France



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## **Basic Mathematics and Units**

Monday 11 March 2024 09:50 (1 hour)

This presentation provides a comprehensive overview of basic mathematics and units essential for understanding and working in accelerator science. The material begins with fundamental concepts such as vectors and matrices, crucial for describing physical systems and solving linear equations that frequently arise in the field. It also explains differential equations. The presentation also covers the various units commonly used in accelerator science, ensuring a clear understanding of measurements and calculations critical to the discipline. Practical examples are integrated throughout to demonstrate the application of these mathematical tools and units in real-world accelerator scenarios, bridging the gap between theory and practice for aspiring accelerator scientists.

**Presenter:** Dr STEERENBERG, Rende (CERN)