

## **Introduction to photoemission spectroscopy**

### **Abstract**

In this lecture, the foundations of the theory of electronic band dispersion in solid crystals will be provided. We will start with the description of the Sommerfeld's free-electron model and delve into the concept of band theory for crystals. As a tool for mapping the electronic bands in solids, we will introduce photoemission spectroscopy as the main technique. First its historical development and then its theoretical foundations. The lecture will close discussing the photocurrent in angle-integrated photoemission spectroscopy.