

## **Angle-resolved photoemission spectroscopy**

### **Abstract**

One of the most impacting ways to characterize a given material, is to map its electronic properties, as it allows to manipulate and control them in targeted applications. Most of the times, the preferential way to probe the electronic properties of a material is to derive them from transport measurements, which in general require several processing steps and could damage the material, especially if two-dimensional (2D).

In this seminar, we will introduce the foundations and basic principles of angle-resolved photoemission spectroscopy (ARPES) and will see how it nowadays represents an ever more popular way for mapping the electronic properties of 2D crystals. ARPES does not require lithography and it allows for getting insight of the electronic properties at energies not accessible by transport, by directly visualizing the band structure of the material. Some real-case measurements on materials of interest, like graphene, transition metal dichalcogenides and their hybrid structures will be shown as an example.