
Scanning tunneling microscopes reveal the long sought Friedel oscillations leading to a powerful new technique to probe electronic structure in k-space

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Résumé

In 1952, Jacques Friedel wrote a fundamental paper on "The distribution of electrons around impurities in monovalent metals", predicting the existence of modulations in the electronic density with a period determined by the spanning wavevector of the Fermi surface. The much later invention of scanning tunneling microscopy led to observation of Friedel oscillations and a new way to probe electronic structure.

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