

# ELECTRON-QUASIPARTICLE INTERACTION IN VAN HEUSLER ALLOY $\text{Cu}_2\text{MnAl}$

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The van Heusler alloy  $\text{Cu}_2\text{MnAl}$  is a ternary intermetallic compound with a unit cell composed of four interpenetrating fcc sublattices. This so-called half metallic ferromagnet is ideal for applications in tunnelling magnetoresistance (TMR) or giant magnetoresistance (GMR) elements as well as electrodes for spin polarized current injection into semiconductors. We have investigated the point-contact and transport properties by measurements of point-contact (PC) spectra and the temperature dependence of the electrical resistivity, respectively. We have used the same sample as in the neutron optics of neutron beam guides in ILL, Grenoble. The temperature dependence of the electrical resistivity  $\rho(T)$  has shown the normal metallic behaviour with the shoulder at  $T \sim 10$  K. PC measurements were carried out in the temperature region from 1.5 K to 10 K ( $T_C = 630$  K) and in the magnetic field up to 1 T. We have observed an asymmetric behaviour of  $dV/dI(V)$  which has been probably due to spin polarization at the Fermi energy. Moreover, the observed  $d^2V/dI^2(V)$  dependencies in spectroscopic regime show the characteristic energies of the electron-quasiparticle interaction in  $\text{Cu}_2\text{MnAl}$ .

9.7 cm

13.4 cm

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