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Electrical transport properties of single crystalline $U_2Cu_4As_5$

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The ternary uranium arsenide $U_2Cu_4As_5$ crystallizes with a body-centred tetragonal structure of its own type (space group $I4/mmm$, lattice parameters: $a = 3.990 \text{ \AA}$, $b = 24.299 \text{ \AA}$) [1]. Magnetic susceptibility measurements revealed that the compound orders antiferromagnetically at $T_N = 189 \text{ K}$ [1]. The onset of the ordered state is accompanied by a rapid drop in the electrical resistivity [1]. Here, we report on the results of our recent specific heat, electrical resistivity, magnetoresistivity and Hall coefficient measurements, performed in wide ranges of temperature and magnetic field on high-quality single crystals of $U_2Cu_4As_5$ grown by chemical vapour transport method.

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