

SUPPLEMENTARY INFORMATION

Magnetoresistance and robust resistivity plateau in MoAs₂

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TABLE S-I. Crystallographic data of MoAs₂ at room temperature are derived from Rietveld refinement based on space group C2/m. $a = 9.064(7)$ Å, $b = 3.298(7)$ Å, $c = 7.718(3)$ Å, and $\alpha = \gamma = 90^\circ$ and $\beta = 119.37(1)^\circ$; $R_{wp} = 14.03$, $\chi^2 = 1.84$

Atom	x	y	z
Mo	0.1533(7)	0	0.2006(1)
As1	0.1464(4)	0	0.5334(5)
As2	0.4063(1)	0	0.1085(7)

I. CRYSTAL STRUCTURAL PARAMETERS AND NEGATIVE MAGNETORESISTIVITY

Fig.S1 shows the different contact configurations of magnetoresistivity measurements in MoAs₂. The negative MR is clearly observed when the magnetic field is parallel to the current regardless of the contact configurations. The MR decreases gradually but remains negative until θ over 6° for two kinds of contact configurations. The difference in the measured MR between contact 1 and contact 2 is about 10%, which is much smaller than those of TaP sample as reported in previous literature[1]. Therefore, the negative MR in MoAs₂ is robust and the current jetting effect should be a minor effect for the appearance of the negative MR in our present sample.

[1] F. Arnold, et al., Nat. Commun. **7** 11615 (2016).

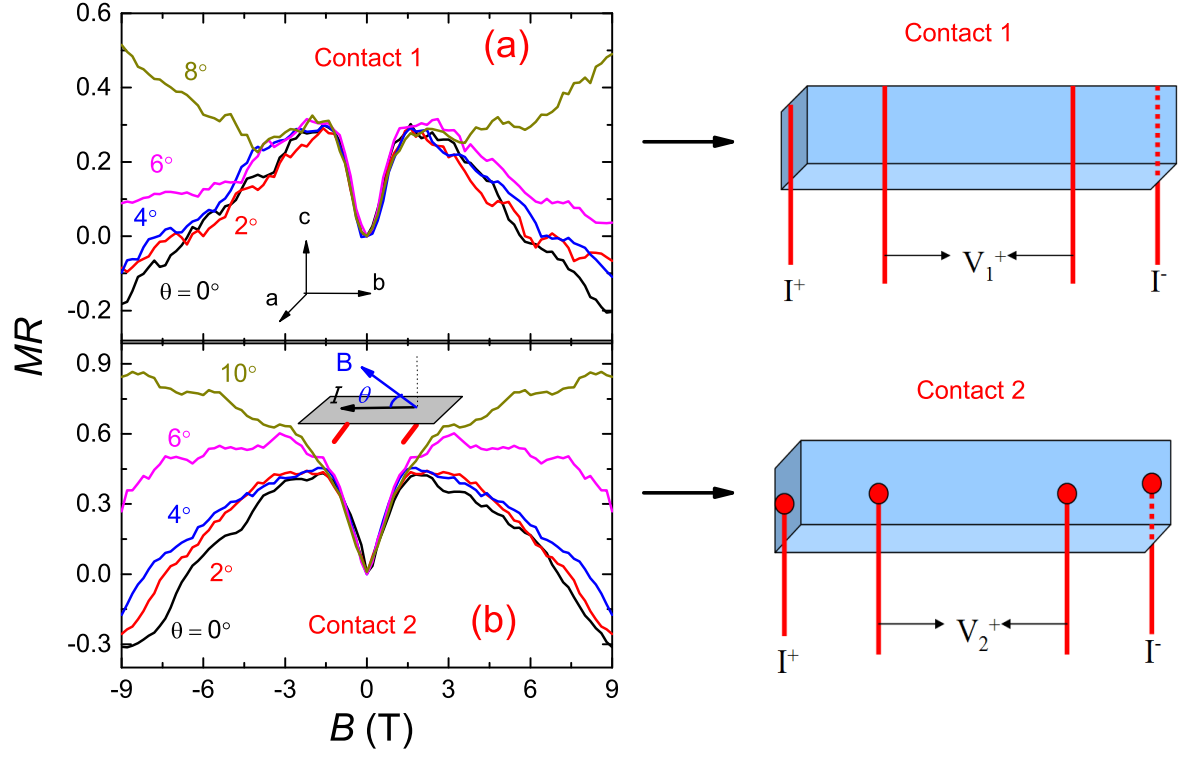


Figure S1. **The negative MR of MoAs₂ are observed with two kinds of resistivity contact configurations.** Left: (a) The clear negative MR at several different angles is observed. (b) as a comparison, the negative MR with another contact configuration is shown. Right: the sketch map of resistivity measurement for contact 1 and contact 2, respectively.