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Magnetoresistivity of V_3Si single crystal: Deviations from Köhler's Rule and details of the Martensitic transformation[1] SUNHEE MORAES, ALBERT A. GAPUD, PETER FAVREAU, University of South Alabama, JAMES R. THOMPSON, University of Tennessee-Knoxville and Oak Ridge National Laboratory, DAVID K. CHRISTEN, Oak Ridge National Laboratory — The effect of the Martensitic transformation on the field dependence of the normal-state transport magnetoresistivity $\rho(H)$ in high-quality samples of A15 compound V_3Si is studied, in the context of the traditional Kohler's Rule, $\Delta\rho/\rho_0 = f(H/\rho_0) = A(H/\rho_0)^b$,where $A$and b are constants. Contrary to the results of a previous study by Zotos *et al.* on polycrystalline samples (*Sol. State Comm.* **50** (5), 1984, p. 453) which found that $b \sim 1.7$ in the vicinity of the Martensitic transformation temperature T_m, the current study on a single crystal finds *two* regimes for $b$on either side of $H/\rho_0 \sim 0.3$ T/($\mu\Omega$cm): For lower fields, $b \sim 0.8$; while $b \sim 1.4$ for higher fields up to 9 T. There is also indication of a sharp deviation in a very small window around T_m. These results could reveal more details about the Martensitic transformation, including the possible role of strain fields, as will be discussed.

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