

Single-crystalline copper nanowires produced by electrochemical deposition in polymeric ion track membranes

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The fabrication of copper nanowires by electrodeposition ion track membranes is reported. The large-grain copper needle deposited at 40°C transition between the polycrystalline needles formed at room temperature and the single-crystalline morphology at 60°C. A systematic study of the DC deposition parameters required for single-crystalline growth is presented.