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# Wire electrochemical micromachining of metallic glass using a carbon nanotube fiber electrode

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**Abstract:** Metallic glasses are promising materials for realizing high-performance micro devices in micro-electromechanical systems (MEMS) owing to their excellent functional and structural characteristics. A significant limitation to their application is the challenge of shaping them on a microscale. A technique of wire electrochemical micromachining (WECMM) with a carbon nanotube fiber (CNF) as tool electrode is proposed for microstructure fabrication of metallic glass. WECMM is a type of electrochemical micromachining (ECMM) that is increasingly recognized as a flexible and effective technology to fabricate complex-shaped micro components. Taking the example of a Ni-based metallic glass, $Ni_{72}Cr_{19}Si_7B_2$, the polarization and fabrication characteristics in dilute acid electrolytes are investigated. As the machining gap is very small in WECMM, efficient mass transport is extremely