


情報電子工学科工学科 論文発表

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| <p>題名</p> | <p>Development and effect of Micro Processing for teaching materials using a machining center</p> |
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| <p>概要</p> | <p>In this study, development and effect of micro processing for teaching materials using a machining center were carried out. The cemented carbide indenter was used instead of cutting tools, and micro processing method was devised for processing fine characters. The fine character lines were drawn using cemented carbide indenter within a square with a side of 100μm. It was found that single point grinding experiment of abrasive grain can be performed successfully using a Machining Center instead of a scratch tester or surface grinding machine. Material removal process can be known through the single point grinding experiments. In the scratching test of a polycrystalline ferrite, micro-cracks occurred in the grains, and the destruction mode was confirmed that was different from the metals. It is found that material with high hardness and low fracture toughness were difficult to process. Many micro cutting marks and large pile up was seen on scratch groove on aluminum alloy. As another application example, Machining Center is used to produce the parts that satisfy the requirements of the steering and the engine peripheral parts of the formula car, or to reduce costs and produce large number of the parts. The university students who produced the formula cars were interested in micro processing through MC and led to increased enthusiasm and motivation for industry.</p> |
| <p>関連画像</p> |  |