

عنوان مقاله:

Single Particle Impact Modeling in Abrasive Water Jet Machining

محل انتشار:

شانزدهمین کنفرانس سالانه بین المللی مهندسی مکانیک (سال: 1387)

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نویسندگان:

Ahmadi-Brooghani - University of Birjand

Hassanzadeh - University of Birjand

Kahhal - University of Birjand

خلاصه مقاله:

The study of the abrasive water jet machining (AWJM) has been presented in this work. The single particle impact of abrasive particle on the stainless steel has been analysed using an explicit finite element analysis (FEA). The FEM software ABAQUS/CAE has been used to model the AWJM. Adaptive mesh domain is used to model the impact zone. The sphericity of the craters shapes have been used to compare the present results and the previous experimental and FEM results. The effect of impact angles and impact velocities of the particles has been investigated. Results which have been obtained in this study are in good agreement with those reported by the previous reserches. Also in this work the crater's depth has been obtained for different impact angle and abrasive particle velocities.

کلمات کلیدی:

Abrasive water jet machining, Adaptive mesh control, Explicit finite elements analysis, Single-particle impact

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