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(57) Abstract :
6. ABSTRACT: Abrasive Jet Machining (AJM) is a non-conventional machining process where a highpressure air stream with small abrasive particles to impinge the work surface through a nozzle. A CNC milling machine was modified to an AJM, using the C-frame, X-Y table, stepper motor and other parts of the CNC. Using CAD software, CATIA and AUTOCAD, a model of AJM was designed. The working chamber and nozzle holding arrangement was fabricated in our institute work shop. Cheap and easily available material like aluminum sheet, steel rod, mild steel, glass fiber, polythene sheet, alien bolt and spring are used for fabrication of machining component. The controller, nozzle, abrasive powder, hose pipe, FRL unit was bought from market. The machine automation was done by using the controller and driver circuit. By feeding the different programing, complicated model was machined. After completing the fabrication work, drilling experiment was done on glass as the work piece and aluminum oxide (AL203) as abrasive powder. The effect of Overcut (OC) and Material removal rate (MRR) of glass material was finding by using L9 orthogonal array based on Taguchi design and considering the, pressure of air and stand-off-distance are control parameter.

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