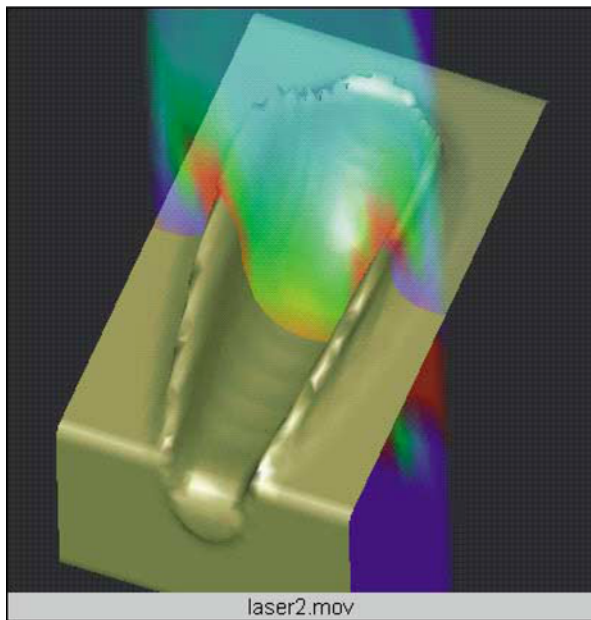
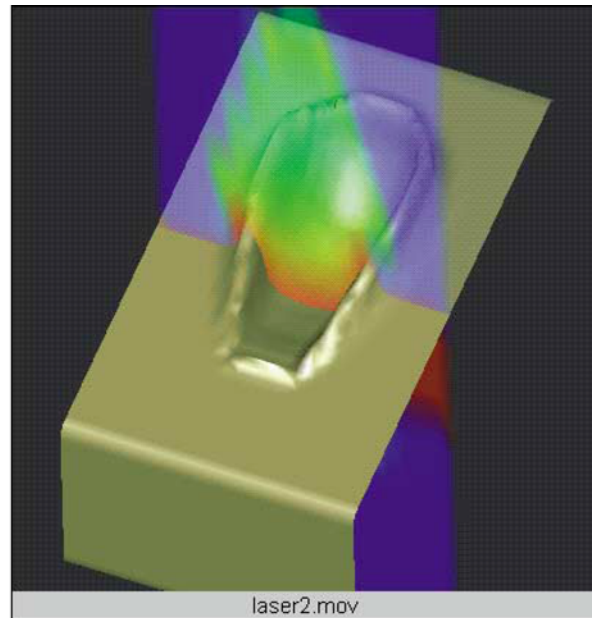
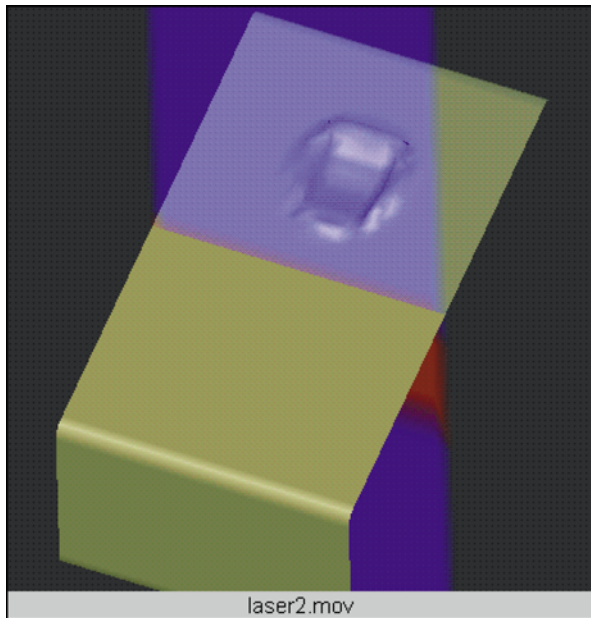


### 6. 3-D simulation of Laser-Induced Cutting Process

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Acrylic block is being melted and evaporated under the illumination of laser light that is scanning over the acrylic surface in time. In the middle of the figure, we have shown a contour map of the evaporating gas. In this process, there exist three different phases like solid, liquid and gas which undergo phase transition. Therefore, these phases must be solved simultaneously by one unified algorithm. The CIP (Cubic-Interpolated Propagation) method has this ability with fixed Cartesian grid system and can treat the sharp interface having density ratio of more than 1000.