

ABSTRACT

DIRECTED ENERGY DEPOSITION FOR PROCESSING GAS TURBINE ENGINE COMPONENTS

Example systems may include an energy source, a material delivery device, and a computing device. The computing device, based on a target height of a layer deposited on a component by directed energy deposition, may control an energy source directed at a component and may control a material delivery device. Controlling the energy source may include advancing an energy beam along a first path to form an advancing molten pool on the component. Controlling the material delivery device may include delivering a material to the advancing molten pool. The material may combine with the advancing molten pool to form a first raised track having an actual height. The layer may include the first raised track. A deposited region of the component may include the layer. The actual height may affect a resultant microstructure within the deposited region.

FIG. 1B