

Use of ultrafast intense laser for processing lignocellulosic material

A method of processing lignocellulosic material comprises the steps of (a) generating a pulsed laser beam consisting of a train of laser pulses, each laser pulse having a duration less than 1×10^{-9} sec. and a peak intensity of at least 1×10^{11} W/cm²; and (b) directing the laser beam generated in step (a) onto a surface of the lignocellulosic material to cause ionization and fragmentation of macro-molecules thereof. The method of the invention enables one to cut, carve and/or sand the surface of lignocellulosic material without, burning same or damaging the cells of the lignocellulosic material.
