

Abstract

The present invention discloses a laser debonding apparatus and method. The apparatus, comprising: a laser emitter; a beam splitter, configured to split the received initial laser into a first laser beam directed to a focal spot analyser, and a second laser beam directed to a sacrificial layer of a bonded component, wherein a distance from the beam splitter to the focal spot analyser equals to a distance from the beam splitter to the sacrificial layer; an infrared vision module, configured to acquire an infrared focal spot image of the second laser beam on the sacrificial layer; and a controller configured as: obtaining a spot size of the first laser beam via the focal spot analyser, wherein the spot size of the first laser beam is equivalent to a spot size of the second laser beam; preliminarily adjusting a working distance from the laser emitter to the sacrificial layer to optimize the spot size of the second laser beam; obtaining the infrared focal spot image of the second laser beam via the infrared vision module, and finely adjusting the working distance from the laser emitter to the sacrificial layer, to compensate for an error of the focal spot analyser; and in response to the laser emitter being adjusted to an optimal working distance, performing laser scanning debonding on the sacrificial layer. The present invention is capable of quickly and accurately adjusting the laser emitter to an optimal working distance.

(FIG. 1)