

Title (en)
SIMULATOR AND METHOD FOR SIMULATING THE TREATMENT OF A BIOLOGICAL TISSUE

Title (de)
SIMULATOR UND VERFAHREN ZUR SIMULATION DER BEHANDLUNG EINES BIOLOGISCHEN GEWEBES

Title (fr)
SIMULATEUR ET PROCÉDÉ DE SIMULATION DU TRAITEMENT D'UN TISSU BIOLOGIQUE

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Abstract (en)
[origin: WO2011089164A2] The invention relates to a simulator for simulating a treatment of a biological tissue, comprising a real handle having three degrees of freedom of translation and three degrees of freedom of rotation, a screen for displaying a three-dimensional model of a treatment area having the biological tissue and a virtual handle, a motion detection device for detecting the three-dimensional motion of the real handle, and a computer having a simulation program by means of which the virtual handle is displaced on the screen in spatial relation to the biological tissue on the basis of the motion of the real handle detected by the motion detection device. The simulator is characterized in that the real handle simulates a laser head for emitting a laser beam of a laser for treating the biological tissue without contact, the simulator comprises an input device for inputting laser parameters of the laser and tissue parameters of the biological tissue, the simulation program calculates an impinging surface of the laser beams on the biological tissue on the basis of the spatial relation and the laser parameters and calculates an energy density distribution of the laser beam within the impinging surface, and the simulation program displays a material removal on the screen on the basis of the energy density distribution and the tissue parameters.

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