

Title (en)
PREDEFINING A MAXIMUM PERMISSIBLE SPEED OF A ROBOTIC DEVICE

Title (de)
VORGEBEN EINER ZULÄSSIGEN MAXIMALGESCHWINDIGKEIT EINES ROBOTISCHEN GERÄTES

Title (fr)
PRÉDÉFINITION D'UNE VITESSE MAXIMALE ADMISSIBLE D'UN DISPOSITIF ROBOTIQUE

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Application
EP 22761139 A 20220803

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Abstract (en)
[origin: WO2023012212A1] The invention relates to predefining a maximum permissible speed for a robotic device (1), comprising: predefining a contact point between a human operator and the robotic device (1) for a collision between the human operator and the robotic device (1), a geometry of the robotic device (1) at the contact point, and a spatial boundary condition of the collision; taking into account the spatial boundary condition, determining whether the collision is a jam-free collision or a jammed collision using a computing unit (4); using the computing unit (4) to calculate the maximum permissible speed of the robotic device (1) at the contact point with a free-impact model if the collision is a jam-free collision, and with a jamming-impact model or with a quasi-static jamming model if the collision is a jammed collision, the models in each case being different models; and using the computing unit (4) to output a signal dependent on the calculated maximum permissible speed for the robotic device (1) in order to predefine the maximum permissible speed of the robotic device (1), at which speed the biomechanical limits for avoiding injuries are reliably maintained, in the most efficient manner possible so as to be able to determine the greatest possible maximum permissible speed.

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