

Highly Accurate Tennis Ball Throwing Machine with Intelligent Control

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Abstract : The paper presents an advanced control system for tennis ball throwing machines to improve their accuracy according to the ball impact points. A further advantage of the system is the much easier calibration process involving the intelligent solution of the automatic adjustment of the stroking parameters according to the ball elasticity, the self-calibration, the use of the safety margin at very flat strokes and the possibility to placing the machine to any position of the half court. The system applies mathematical methods to determine the exact ball trajectories and special approximating processes to access all points on the aimed half court.

Keywords : control system, robot programming, robot control, sports equipment, throwing machine

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