Structure of a Monitoring, Control and Quality Assessment System for Electric Arc Welding Processes

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ABSTRACT

Computer vision is an important component of Artificial Intelligence, Automation, Mechatronics and Robotics. The need of complex control of the arc welding processes involved computer vision in this field, opening a new research direction. The main aim of this is to achieve complex systems, able to assure the online control of arc welding processes based on the welding electric arc features and molten metal transfer particularities. Another important aim of this kind of researches is to achieve the quality classification of the welds, avoiding classical control inspection and testing. The paper presents a research startup in the field of Arc Vision. The content of the main stages is presented, underlining the theoretical basis and the experimental validation chosen methods, as too. These researches are continuing fundamental themes both in the fields of welding and mechatronics, of the Robotics and Welding Department, Dunarea de Jos of Galati University-Romania.

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