Indoor Inter-Robot Distance Measurement in Collaborative Systems

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Abstract: This paper focuses on the problem of autonomous distance calculation between multiple mobile robots in collaborative systems. We propose and discuss two distinct methods, specifically developed under important design and functional constraints, such as the speed of operation, accuracy, energy and cost efficiency. Moreover, the methods are designed to be applied to indoor robotic systems and are independent of fixed landmarks. The measurement results, performed on the CORE-TX case study, show that the proposed solutions meet the design requirements previously specified.

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