Robust least square estimation of the CRS A465 robot arm's dynamic model parameters

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Abstract

This paper presents the experimental estimation of the barycentric parameters of the CRS A465 robot arm. Three methods are used to estimate the barycentric parameters of the arm; ordinary least square method, weighted least squares method and iteratively reweighted least squares method. The estimation is carried out on the complete robot model and the simplified model where the effect of the product of inertia is ignored. The joints friction is represented by the standard friction model. The obtained results show how the identification methods and the model simplification affect the parameters estimation and joint torque prediction in real system identification.