

ABSTRACT

An object of this invention is to provide a high performance and low cost crane rope steadying control method and apparatus for which mechanical or optical swing angle detecting means are not necessary.

The invention provides a rope steadying control method for a crane or the like having a trolley driving apparatus for causing a load suspended by a rope of a crane or the like to travel, wherein swinging of a load suspended by a rope is stopped by calculating a swing load signal I_{2W}^* proportional to the rope swing angle and the load by computationally estimating a motor torque estimate signal τ_M^* not including load torque fluctuations caused by swinging of the rope on the basis of gain coefficients and equivalent time constants of the control system and the drive system, and comparing this estimate signal τ_M^* with an actual load torque τ_M and negatively feeding back to a trolley speed command N_S of the trolley driving apparatus (1) a speed signal N_W produced by carrying out phase lead/lag compensation on the difference between a swing angle detection estimated value θ_1^* proportional to this swing load signal and a swing angle set value θ_S .