

ABSTRACT

METHOD FOR PLANNING TRANSPORT ROUTES OF OVERHEAD HOIST VEHICLES BASED ON ELIMINATION OF CONFLICTS

Embodiments of the present disclosure provides a method for planning transport routes of overhead hoist vehicles based on elimination of conflicts, including: S101: calculating a shortest distance between each two intersections of intersections in a track map, and establishing a routing table; S102: matching each respective overhead hoist vehicle with a respective issued handling task of issued handling tasks, until each overhead hoist vehicle has a respective issued handling task or each issued handling task has a respective matched overhead hoist vehicle; S103: querying, based on data of the issued handling tasks, the routing table, and finding a shortest route to be travelled through of the respective overhead hoist vehicle for the respective issued handling task; S104: calculating a leaving duration of the respective overhead hoist vehicle starting from the respective overhead hoist vehicle travelling through a current intersection on the shortest route and ending at the respective overhead hoist vehicle leaving a next intersection, and sorting leaving durations in an ascending way; S105: detecting whether a conflict occurs on the respective overhead hoist vehicle during travelling from the current intersection to the next intersection; and S106: in response to determining that the conflict occurs at the next intersection or occurs in a loading process or an unloading process of another overhead hoist vehicle, eliminating the conflict by commanding the respective overhead hoist vehicle to wait in situ or switch to another route.

Figure 1