

Title (en)

TRAIN GROUP CONTROL METHOD AND SYSTEM BASED ON AD-HOC NETWORK

Title (de)

ZUGGRUPPENSTEUERUNGSVERFAHREN UND -SYSTEM BASIEREND AUF EINEM AD-HOC-NETZWERK

Title (fr)

PROCÉDÉ ET SYSTÈME DE COMMANDE DE GROUPE DE TRAINS SUR LA BASE D'UN RÉSEAU AD HOC

Publication

**EP 4098512 A1 20221207 (EN)**

Application

**EP 21879014 A 20210708**

Priority

- CN 202011099742 A 20201015
- CN 2021105122 W 20210708

Abstract (en)

A train group control method based on an ad-hoc network, comprising: searching for, by ad-hoc network equipment on a train, communication equipment of another train within a preset distance; determining whether the train is on the same track as another train; if the train is on the same track as another train, determining whether a networking condition is satisfied; if the networking condition is satisfied, determining whether an ad-hoc network exists or not; if no ad-hoc network exists, establishing, by another train satisfying the networking condition, an ad-hoc network with an original train; if an ad-hoc network exists, adding another train satisfying the networking condition to the ad-hoc network; and controlling, by the train set in the ad-hoc network, the train operation in the ad-hoc network by means of the ad-hoc network. The present invention further discloses a train group control system based on an ad-hoc network. By means of the control method and the control system, a train group control is achieved on the basis of a train-to-train communication technology in the ad-hoc network. Trains are automatically networked when the conditions are satisfied, and inter-train data are transmitted between the trains without relying on the ground base station. No central control equipment needs to be arranged on the ground, and no wireless network coverage is needed in a ground section. A train interval is dynamically adjusted according to track conditions, a temporary speed restriction and the states of various trains in the group.

IPC 8 full level

**B61L 23/18** (2006.01)

CPC (source: CN EP)

**B61L 15/0027** (2013.01 - EP); **B61L 15/0054** (2013.01 - EP); **B61L 15/0062** (2024.01 - EP); **B61L 23/18** (2013.01 - CN); **B61L 23/34** (2013.01 - EP); **B61L 27/70** (2022.01 - EP)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

**EP 4098512 A1 20221207**; **EP 4098512 A4 20231206**; CN 112009526 A 20201201; CN 112009526 B 20210219; WO 2022077966 A1 20220421

DOCDB simple family (application)

**EP 21879014 A 20210708**; CN 202011099742 A 20201015; CN 2021105122 W 20210708