

短文

矿浆管道输送流速仿人智能多模态控制研究

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摘要:

针对矿浆管道输送流速控制的大时滞、建模困难等问题, 提出分段变增量的仿人智能多模态控制新算法. 将完整矿浆批量输送实际过程划分成多段特征模态, 采用不同的控制增量算法以推理确定控制模态. 基于新研制的多泵站管道输送平台, 给出了系统结构框图与算法模块设计, 采用两种矿浆管道批量输送流速运行方式, 实现了满意的

实时控制, 验证了控制系统结构与算法的可行性和有效性.

**关键词:** 矿浆管道输送; 多泵站输送平台; 输送流速; 仿人智能控制

Research on humanoid intelligent multi-modality control of flow velocity in mineral slurry pipeline transportation

Abstract:

For the characteristics of flow velocity control of mineral slurry pipeline, such as large delay, difficulty in modeling and etc., a humanoid intellegent multi-modality control algorithm of segmental variable increment is presented.

The whole practical process of mineral slurry delivery can be devided into multi-stage characteristic modes, and different control increment algorithm can be adopted, so that the control mode can be decided. Based on the new developed pipeline delivery platform of multi-pump station, the control block diagram and algorithm module design of delivery flow velocity are given. By adopting the mode of two types of flow velocity operating method, the real-time control performances are satisfied. The results show the feasibility and effectiveness of control structure and algorithm.

Keywords: mineral slurry pipeline transportation; multi-pump transportation platform; flow velocity; humanoid intelligent control

收稿日期 2010-09-13 修回日期 2010-12-20 网络版发布日期 2012-02-13

DOI:

基金项目:

十一五国家支撑计划课题

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