

工程与应用

航班延误树的构造与波及分析

曹卫东^{1,2}, 丁建立¹

1. 中国民航大学 计算机学院, 天津 300300

2. 天津大学 系统工程研究所, 天津 300072

收稿日期 2007-11-22 修回日期 2008-2-27 网络版发布日期 2008-5-25 接受日期

摘要 由于一架飞机在一天中要执行多个航班, 各航班之间存在前后衔接关系, 因此, 一个航班的延误会波及到下游许多其它航班。重点研究飞机和机组资源对于航班延误与波及的影响, 给出延误树的生成过程, 通过初始航班延误的触发, 动态建立以该航班为根结点的航班延误树, 并根据统计结果给出相关量值。实例分析了初始航班延误发生的时刻、持续时间与波及的程度, 以期辅助优化飞机与机组排班, 减少航班延误。

关键词 [航班延误](#) [延误航班集](#) [航班延误树](#) [航班延误指数](#)

分类号

Flight delay tree and propagation analysis

CAO Wei-dong^{1,2}, DING Jian-li¹

1. Computer College of Civil Aviation University of China, Tianjin 300300, China

2. Institute of System Engineering, Tianjin University, Tianjin 300072, China

Abstract

Because an airplane is needed to carry out several scheduled flight services in a day, of each service linked another, one delay will propagate to the other. This paper investigates the aircraft and crew resources for the influence of flight delay and propagation and describes the process of creating a delay tree. Triggered by beginning flight delay, it develops a delay propagation tree with initial flight as its root and statistic some metrics. It analyzes the relationship among the time of day, the duration of initial delay and the propagation in an instance. Its purpose is to help the optimization of aircraft and crew schedule, thereby reduce the flight delay.

Key words [flight delay](#) [delay flight set](#) [flight delay tree](#) [DM](#)

DOI:

通讯作者 曹卫东 caowdf@yahoo.com.cn

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(517KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ 本刊中 [包含“航班延误”的相关文章](#)

▶ 本文作者相关文章

· [曹卫东](#)

· [丁建立](#)