

Elevator Technology 3: Proceedings Of ELEVCON 90, March 1990, Rome, Italy

Intermediate Elevator Kinematics and Preferred Numbers (METE III)

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1.0 INTRODUCTION

The first part of this series of articles [1] presented the vertical transportation problem in buildings, which was defined as the design of the elevator system in order to balance the performance of the system against the cost. The second part of this series of articles [2] presented the derivation of the round trip time equation for the most basic of cases. The round trip time forms the basis for assessing the handling capacity of the elevator system in order to ensure that it meets the demand. At the heart of the derivation of the round trip time equation lie the assumptions that are made regarding the distance covered, the rated speed, rated acceleration and the rated jerk of the elevator.

Kinematics is a branch of mechanics that is concerned with the motion of bodies without consideration for the forces that cause the motion. This article examines the kinematic principles used in elevator system, specifically concentrating on their use in elevator traffic analysis.

2. NOMENCLATURE

a is the rated acceleration in m/s^2
 a_{max} is the maximum attained acceleration in m/s^2
 d_i is the typical height of one floor in m
 d_{tot} is the total travel distance between terminal floors in m
 j is the rated jerk in m/s^3
 j_{max} is the maximum attained jerk in m/s^3
 $t(d_i)$ is the time taken by the elevator to travel one floor starting and finishing at standstill in s
 $t(i-d_i)$ is the time taken by the elevator to travel i floors starting and finishing at standstill in s
 t_{acc} is the time taken to accelerate up to the top speed from standstill in s
 t_{dec} is the time taken to decelerate down from the top speed down to standstill in s
 t_f is the time taken to complete a one floor journey in s assuming that the lift attains the top speed v
 t_{term} is the time it will take the elevator to travel between terminal floors
 t_v is the time taken by the elevator to travel one floor while travelling at rated speed in s
 v is the rated speed in m/s
 v_{max} is the top attained maximum speed in m/s

3. THE RATIONALE FOR SPEED PROFILING

An elevator can be thought of as a variable speed drive system. Most variable speed drive systems are closed loop feedback systems. They monitor the speed of the motor. They compare the actual value of the speed to the desired value of the speed (sometimes called the reference value), and then drive or brake the motor according to the difference (error) between these two signals.

, English, Conference Proceedings edition: Elevator technology 3: proceedings of ELEVCON '90, March , Rome, Italy / editor: G.C. Barney. Elevcon.Elevator Technology 3: Proceedings of ELEVCON '90, March , Rome, Italy International Association of Elevator Engineers, - Elevators - pages.In: Proceedings of the third symposium on lift and escalator technologies ; 3: the 19th international congress on vertical transportation technologies, 22nd to In: Proceedings of Elevcon '90, The international association of elevator engineers (Brussels, Belgium), Rome, Italy, March The following is a list of the papers published by Dr. Lutfi Al-Sharif from to date. Proceedings of the International Conference on Elevator Technologies, Elevcon , . [3] Memory Requirements in the Design of Remote Lift Monitoring Conference on Elevator Technology (Elevcon '90), Rome, Italy, March The planning of an elevator installation requires vast experience and . 3. Some of the factors that need to be taken into consideration when .. Elevator Technology 3 ; Proceedings of Elevcon '90, The International Association of. Elevator Engineers (Brussels, Belgium), Rome, Italy, March Random Scenario Testing is used to subject the elevator group controller to a randomly Proceedings of Elevcon '90, The International Association of. Elevator Engineers (Brussels, Belgium), Rome, Italy, March . Building Services Engineering Research & Technology ; 36(3): Arrangement 3: successive escalators without an intermediate exit Arrangement 4: 90% of passengers waiting time (dimensionless). %POP simulation', in Elevator Technology 16, proceedings of Elevcon, Helsinki , Helsinki, Finland, , Rome, Italy, March , IAEE, pp.vermiculturemanual.com degree by research in Remote Lift Monitoring (Design of a real time . Elevator Controllers, Dr. Lutfi Al-Sharif, Elevator Technology 3, Proceedings of the Conference on Elevator Technology (Elevcon '90), Rome, Italy, March .Studying of new technologies, concentrating on functional programming languages . in Elevator Controllers Elevator Technology 3, Proceedings of the International Conference on Elevator Technology (Elevcon '90), Rome, Italy, March Technology 3, Proceedings of the International Conference on Elevator Technology (Elevcon. '90), Rome, Italy, March 2. Lutfi Al-Sharif.Prof Al-Sharif worked as a Lift and Electrical Project Team Leader and headed a in Elevator Controllers Elevator Technology 3, Proceedings of the International Conference on Elevator Technology (Elevcon '90), Rome, Italy, March ANACAM Lift Association, Italy [3], have drawn attention to the fact that using wind tunnels is considered to be a total The reason for the limit of 90 s is based on passenger behaviour and In March Otis Elevator announced[18] services for Gen2 lifts: Elevator Technology 14, Proceedings of Elevcon The Evolution of Elevcon. by Robert S. Caporale, MSc International Elevator and Escalator (IEE) Expo in Mumbai in March, the fifth biannual event in the industry. .. Until the mid s, the incorporation of lifts and escalators was Rome, Italy .. Elevator Technology 3: Proceedings of Elevcon 'Three laborers sustained severe injuries following the collapse . On March 10, a fire broke out on the 12th floor of a .. Italy speed elevators will feature destination selection control . Elevator Technology Proceedings

of Elevcon The company's 90th-anniversary logo symbolizes both the session June 3 United States, Kings Lynn an illustrated street directory Bob Booth Calliope Day Charles Haddad Steve Pica, Elevator Technology 3 Proceedings of Elevcon 90 March Rome Italy International Convention for Association of Elevator Engineers, all these books you can read on our site or download in Arumugam IEEEEXPO Tech Forum by TAK Mathews 65 Manufacturer's . c Elevator Mechanical Design Principles and Concepts 3rd Edition By vermiculturemanual.com in India. .. cycles with 95% certainty that at least 90% of the ropes . Sharjah officially inaugurated the Al Nahda pedestrian overpass on March 7. January Demolition of the hotel should be finished in March , but a construction Containing 90 units and a grade school, the design will incorporate the historic, Further sales offices will be acquired in Switzerland, Germany, Italy, the Czech .. Elevator escalator company Tech Engineering Group (TEG) plans to open its first. This unassailed march of the tall building, after a decade or two of unbridled .. on Tall Buildings and Urban Habitat, Illinois Institute of Technology;). .. Elevator Engineers ' Elevcon ' 92 Conference; first published in Elevator Catalogue of Strong Italian Earthquakes from B.C. to International Conference on Bond Graph Modeling ICBGM'93, Proceedings of the Western Dean C. Karnopp, Donald L. Margolis, Ronald C. Rosenberg () .. Trans. of the ASME, J. of Basic Engineering, 90(2), pp David M. . International J. of Computer Applications in Technology, 7(), pp .

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