DEVELOPMENT OF TRAFFIC LOAD AUTO MEASURING SYSTEM USED BY RUBBER OPTICAL CABLE

1989 Fiscal Year Final Research Report Summary

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Research Project

Project/Area Number

63850101

Research Category

Grant-in-Aid for Developmental Scientific Research

Allocation Type

Single-year Grants

Research Field

土木構造

Research Institution

KANAZAWA UNIVERSITY

Principal Investigator

KAJIKAWA Yasuo KANAZAWA UNIVERSITY, FACULTY OF TECHNOLOGY, PROFESSOR, 工学部, 教授 (00089476)

Co-Investigator(Kenkyū-buntansha)

MASUYA Hiroshi KANAZAWA UNIVERSITY, FACULTY OF TECHNOLOGY, ASSISTANT, 工学部, 助手 (20157217)
NISHIZAWA Tatsuo ISHIKAWA COLLEGE OF TECHNOLOGY, ASSISTANT PROFESSOR, 講師 (00143876)

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1988 – 1989

Keywords

Traffic Load / Traffic Flow / Auto Measuring System / Rubber Sensor / Optical Cable

Research Abstract

The traffic data available which to evaluate the fatigue safety of concrete slabs and steel girder of bridges and pavement of roadways is limited. The reason is that the acquisition of the traffic data requires a lot of time and and manpower,and therefore involves a large cost. Over the past few years, the authors have been trying to develop a portable system which monitors the traffic flow and records wheel position and passing times of vehicles at any point on a roadway. This also has the ability to process the data and provide histograms of axle weight, speed and type of vehicles and lateral distribution of wheels, and allows the collecting of a large amount traffic data in various times with low cost.
The developed system has consisted of three sub-systems as follows, (1) Traffic flow measuring system ---- This sub-system has almost been completed.

Using this system, many observations have been done at many point of roadways. Many softwares of traffic data have been developed from several point of view. (2) Axle weight measuring system ---- It is confirmed that this sub-system which used the axle weight meter in tool gates has been able to measure automatically. (3) Vehicle weight measuring system ---- This system has consisted of rubber sensors with rubber optical cables, data logger and personal computer. The sensors and logger have completed. Using this system, some observations have been done at roadways.
The traffic load auto measuring system used with rubber optical cables has been succeeded in developing.

Research Products (9 results)

All | Other

All | Publications (9 results)

[Publications] 梶川康男: "可搬式自動車交通流自動観測システムの開発" 土木学会論文集. 391. 107-114 (1988)

[Publications] 梶川康男: "道路橋の疲労照査のための自動車通過位置分布について" 土木学会中部支部昭和63年度研究発表会講演概要集. 90-91 (1989)

[Publications] 西沢辰男: "コンクリ-ト舗装版の疲労破壊に及ぼす車輪走行位置の影響" 土木学会中部支部昭和63年度研究発表会講演概要集. 466-467 (1989)

[Publications] 梶川康男: "ゴム光ケ-ブルを用いた自動車荷重測定システムの開発" 土木学会中部支部平成元年度研究発表会講演概要集. (1990)

[Publications] 西沢辰男: "コンクリ-ト舗装版の疲労ひびわれ評価システムに関する研究" 土木学会論文集.

[Publications] 梶川康男: "道路橋の疲労照査のための自動車通過位置分布" 土木学会論文集.

[Publications] Y.KAJIKAWA: "Development of Portable Traffic Flow Auto Measuring System" Proc.of JSCE, No.391, pp.107-114, 1988.

[Publications] T.NISHIZAWA: "Study on Evaluation System of Fatigue Cracks of Concrete Pavement Slab" Proc.of JSCE.

[Publications] Y.KAJIKAWA: "On Transverse Location of Vehicles for Fatigue Loads of bridges" Proc.of JSCE.

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