

BOOK OF ABSTRACT

**BULLETIN OF NATIONAL INSTITUTE OF TECHNOLOGY,
MAIZURU COLLEGE**

No. 55

MARCH 2020

NATIONAL INSTITUTE OF TECHNOLOGY, MAIZURU COLLEGE

Contents

<Engineering>

Development of Early Detection System for Marine Victims

Part 1 Current Status and Issues Regarding the Detection of Marine Victims

- UTSUMI Yasuo, KOBAYASHI Yohei, MATSUOKA Shigeru, SANOKI Yoshio, 1
SUZUKI Naoyasu, MIZUNO Naoyoshi and KAMBARA Shinsuke

Decoupling Possibility of CO2 Emission and Economic Development

– A Case Study of the G20 Economies –

- Shigeo SHIKURA 2

<Human Science>

An Essay on the Pilgrimage Research sponsored by COC+

- Motoyuki HAYASHI, Yuya FUJITA, Daiki BITO 3
and Shin'ichi YOSHINAGA

A Study About the Management of Japanese Ships,

Diplomatic Documents and Travel Documents at the Wakan in the Period

Before and After the Abolition of the Han

- Masashi MAKINO 4

Development of Early Detection System for Marine Victims

Part 1 Current Status and Issues Regarding the Detection of Marine Victims

UTSUMI Yasuo*, KOBAYASHI Yohei, MATSUOKA Shigeru, SANOKI Yoshio,
SUZUKI Naoyasu, MIZUNO Naoyoshi, and KAMBARA Shinsuke

*Corresponding author: y.utsumi@maizuru-ct.ac.jp

Abstract:

In recent years, the use of the quasi-zenith satellite, QZSS, has been advanced, and positioning with an accuracy of about 1 m can be achieved easily and inexpensively over a wide range from Japan to Australia.

This study is aimed to develop an early detection system that uses QZSS to identify the location of marine victims at an early stage and notify relevant parties to improve the response to marine accidents.

The survey including interviews with rescue personnel has been performed to understand the current situation, to clarify the required performance of the system, and to develop the actual system. It results in the following items.

- 1) It is difficult to search for small fishing boats for one person.
- 2) It is important to specify the position at the time of the fall, considering the time before rescue.
- 3) The need for a location identification system at the time of falling water has been requested by all parties concerned.

We also proposed the equipment configuration and function of the early detection system for marine victims. In the future, we will examine the specifications and improve the prototype as a real functioning system.

Key words: Marine Victims, Detection System, QZSS

Decoupling Possibility of CO2 Emission and Economic Development - A Case Study of the G20 Economies -

Shigeo SHIKURA*

*Corresponding author: shikura@maizuru-ct.ac.jp

Abstract: In this paper, influence of GDP to CO2 emission in G20 economies is investigated by regression analysis and path analysis. First, stationarity of all the data obtained were checked, then non-stationary data were stationalized, finally the data were utilized in analysis. As a result of regression analysis, it was revealed that (1) only France, Germany, India, and South Africa are in decoupling state, (2) Turkey and Korea are according to EKC theory. Path analysis showed that the G20 was able to be divided into 5 groups (see Fig. 5 below). Feature of each group is summarized as below,

Group A: (1) relation between CO2 emission and GDP is extremely strong, (2) energy effect is dominant.

Group B: (1) the relation is extremely strong, (2) a fossil fuel effect is dominant, but a direct effect is also effective.

Group C: (1) the relation is intermediate, weaker than Group B, (2) a fossil fuel effect is dominant.

Group D: (1) the relation is relatively weak, smaller than Group C, (2) a direct effect is dominant.

Group E: (1) the relation is very weak, (2) plus and minus effects are significant, and make total effect negligible.

Members of Group E are entitled to receive a decoupling state. A direct effect in China, fossil fuel effect in USA, and both of these effects in Japan are main paths. According to implications of this study, some policy issues in these 3 countries were discussed.

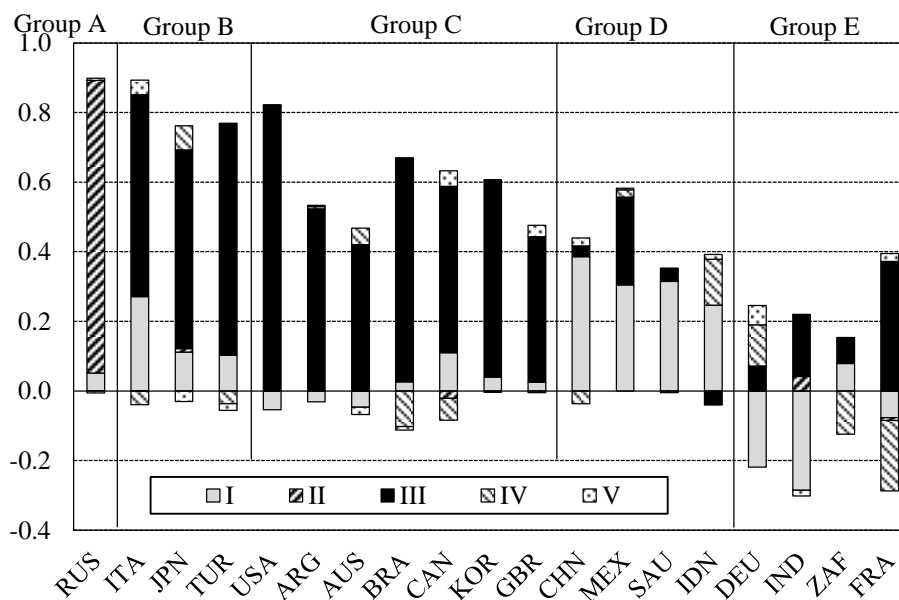


Fig. 5 Direct and indirect effect of GDP

Key words: Global warming, GDP, CO2, G20, Path Analysis

An Essay on the Pilgrimage Research sponsored by COC+

Motoyuki HAYASHI, Yuya FUJITA, Daiki BITO and Shin'ichi YOSHINAGA

*Corresponding author: yosinaga@maizuru-ct.ac.jp

Abstract: "Junrei Manabi no Proguramu"(the Pilgrimage Research Program) is a series of educational events and lectures from 2015 to 2019, for the purpose of letting students discover the values and meanings of their own regional religious cultures through "pilgrimage" and "sacred places". This program was conceived because Matsunō-dera dera Temple, which is no. 29 of Saigoku 33 Kannon Pilgrimage, the oldest pilgrimage route in Japan, stands in Mt. Aoba just behind our college. These have been sponsored by COC+ (Program for Promoting Regional Revitalization by Universities as Centers of Community).

This essay consists of three parts. In the first part, the events related to this Pilgrimage Program are reported, including "Junrei Sinpojiumu" (Symposium on Pilgrimage) held on July 1 and 2, 2017, which took place at Maizuru Nishi Shimin Pulaza (Community Center in Nishi Maizuru) and Matsunō-dera. Some reports by students are summarized in this part. The second part deals with a terrifying urban legend about the imagery "Rosia byoin" (Russian Hospital) which is thought to be situated to the north of our college. This chapter is written by three students, Motoyuki Hayashi, Yuya Fujita, Daiki Bito. And the last part is about the pre-modern history of religions near our college, and the survey of folk religions in Nishi Maizuru.

Key words: Pilgrimage, Sacred Place, Matsunoo dera Templet, Urban Legend

A Study About the Management of Japanese Ships, Diplomatic Documents and Travel Documents at the Wakan in the Period Before and After the Abolition of the Han System

Masashi MAKINO*

*Corresponding author: m.makino@maizuru-ct.ac.jp

Abstract: I investigated the diplomatic documents (書契) and the travel documents (吹嘘), which permitted Japanese ships to enter the Wakan, especially used in 1871. By doing so, the following facts were clarified. According to a document, 61 Japanese ships entered the Wakan 1871 and used 86 書契 and 吹嘘 in total. 書契 and 吹嘘 were written in the same as before, even after the han system had been abolished on 14th of the July. In the Edo period, 書契 and 吹嘘 were supposed to be written by Tsushima's feudal lord, and Japanese ships without these documents were not permitted to enter the Wakan. However, the Abolition of the han system deprived Tsushima's feudal lord of his status. In spite of this situation, 書契 and 吹嘘 continued to be published and used in the name of Tsushima's feudal lord who no longer existed. In conclusion, 書契 and 吹嘘 violating the rules had been used after the Abolition of the han system.

Key words: 書契, 吹嘘, Wakan, Abolition of the han system