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最佳論文獎

特頒發此狀，以資鼓勵。

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038 Grey & Rough Sets and Its Applications in Educations

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Abstract

The purpose of this paper is to propose Grey System Theory & Rough Sets Theory and its applications in educations. For samples with the doctoral dissertations, and presents about an act worthy of special mention for RaschGSP IRT (a new modern IRT) of the non-parametric statistical science, Nagai-GRA, Taylor Apprximation method of a new Grey prediction model (eg. T-DGM(2,n)), 5W1H-ISM, GSM, RSM, RGSM, MSM, Kansei Engineering and so on. The results of this paper provide important information for educational administrators, and they can assist the government in developing future policies regarding educational management and new reaserchs.

Keywords: Grey System Theory & Rough Sets Theory, RaschGSP IRT, Non-parametric statistical science, Nagai-GRA, GSM, MSM

039 Food at ease - Development of a rotary sushi sterilization system

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Abstract

The issue of food safety has always been a topic of public concern. A weekly magazine reported a study about purchasing five chained sashimi risottos and sent them to SGS for inspection. It was found that in addition to the excess of E. coli bacteria in the 3 products, there were 3 other products contaminated by Staphylococcus aureus, including the "Dingshi 8" under the Sushi Express Group, both of which were on the list. The food hygiene management has been a serious public health problem. In order to effectively improve the number of bacteria and the total number of bacteria over the problem, members of our team surfed the net to clarify the ways to effectively kill and inhibit bacteria on food. The literature shows that the use of ultraviolet radiation to kill Bacillus subtilis and Bacillus spores has proved that it has the superb ability to kill bacteria. Our team used ultraviolet germicidal lamps to develop creative thematic works. First, select UV lamps with better quality and sterilizing effect, and then, install five lamps with the appropriate irradiation angle on the reflective silver and lead plate. The silver and lead plate is made into a semicircular device on the form core. A mbot robot is used for this design as a food product conveyor. The advantage of using mbot robot is that it is not limited by a track. Since the sterilization must have sufficient time and irradiation power, the route is carefully planned. Finally, the aluminum foil on the outlet of the reflective silver lead plate can increase the effect of ultraviolet sterilizing. By using the ultrasonic sensor, mbot robot can stop in front of the reflective silver lead plate and waited for 5 seconds, sterilized and then continued moving.