淡江大學數學系演講公告

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題　　目：General Degradation Model with Measurement Errors

日　　期：110 年 11 月 23 日（星期二）

時　　間：下午 16:10 開始

地　　點：科學館 S433 室

摘要 Abstract:

Degradation analysis has become the most important technique and efficient method for developing statistical models of highly reliable products. When there are measurement errors in monotonic degradation paths, the assumption of the non-monotonic model can lead to contradictions between physical/chemical mechanisms and statistical/engineering explanations. To settle the contradiction, this study presents an independent increment degradation-based process that simultaneously considers the unit-to-unit variability, within-unit variability, and measurement error in the degradation data. To estimate the model parameters, we use a quasi-Monte Carlo approach to overcome high-dimensional integrals of the likelihood function, in addition to providing a model-checking procedure to assess the validity of model assumptions. Some case studies are performed to demonstrate the flexibility and applicability of the proposed models.

備　　註：本活動與 SDGs 連結如下：SDG4 優質教育

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