



Contribution ID: 11

Type: **not specified**

## **The study of variability in engineering design—An appreciation and a retrospective**

*Tuesday, 14 September 2021 10:40 (20 minutes)*

We explore the concept of parameter design applied to the production of glass beads in the manufacture of metal-encapsulated transistors. The main motivation is to complete the analysis hinted at in the original publication by Jim Morrison in 1957, which was possibly the first example of exploring the idea of transmitted variation in engineering design, and an influential paper in the development of analytic parameter design as a statistical engineering activity. Parameter design (the secondary phase of engineering activity) is focussed on selecting the nominals of the design variables, to simultaneously achieve the required functional target, with minimum variance.

Morrison, SJ (1957) The study of variability in engineering design. *Applied Statistics* 6(2), 133–138.

### **Keywords**

robustness, parameter design, transmitted variation

### **Special/invited session**

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**Session Classification:** Quality 1

**Track Classification:** Quality