

测试技术

### 目标探测分布律K P法检验设计及应用

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摘要

对试验数据进行科学合理的误差分析是提高靶场科研鉴定试验质量的一项重要内容。若使用未经分布律检验的试验数据进行精度分析,很可能影响鉴定和定型结论的正确性,该文借助于Excel,Matlab和Origin等最新数据处理、绘图软件技术对大量数据实地研究,取得了如下结论:部分样本和总体标本分段后是符合正态分布的,进一步提出将柯尔莫戈洛夫(Kolmogorov)与皮尔逊(Pearson) $\chi^2$ 两种方法作为靶场目标探测中大量数据分布律检验的统一规范,这样可大幅度提高试验的可信度。合理选择置信水平,可使试验航次数降到原试验航次数的10%~50%。该方法可推广到各类系统和单机试验中去。

关键词 [目标探测](#) [靶场试验](#) [分布律](#) [K P检验法](#) [检验设计](#)

分类号

### Design and application of K P test for target detection distribution law

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**Abstract** Scientific error analysis for the test data is critical to improve the R&D product evaluation quality of the test range. Using testing data not verified by distribution law for accuracy analysis will mislead the evaluation and final conclusion. With the help of new data processing technique and drawing software (such as Excel, Matlab, Origin and so on), a lot of test data were studied, it is concluded the partial sample data and the whole sample data conform with normal distribution after they are separated into some parts. Kolmogorov and Pearson  $\chi^2$  methods are introduced to function as a unified norm for verifying the distribution of large amount of data obtained from target detection in the test range. This norm can greatly increase the credibility of the test. If the confidence level is reasonably selected, the number of flights can be decreased to 10%~50%. The method has the potential to be used in almost all the system and device testing.

**Key words** [target detection](#) [test range](#) [distribution law](#) [Kolmogorov](#) [Pearson test method](#) [test design](#)

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