

- XU Mei-jin, WANG He-yuan, YANG Wen-jie. Simple algorithm for probability density of function in two random variable[J]. *Journal of Liaoning Institute of Technology*, 2005, 25(3): 205 - 207.
- [13] 曹建华, 蔡瑞娇, 董海平, 等. 电火工品桥丝与药剂升温模型及在可靠性设计中的应用[J]. *爆炸与冲击*, 2004, 24(1): 90 - 95.
- CAO Jian-hua, CAI Rui-jiao, DONG Hai-ping, et al. The temperature rising models of bridge wire and explosive of electro-explosive device and application in reliability design[J]. *Explosion and Shock Waves*, 2004, 24(1): 90 - 95.
- [14] 钟一鹏, 胡雅达, 江宏志. 国外炸药性能手册[M]. 北京: 兵器工业出版社, 1990.
- [15] 胡荣祖, 堵祖岳, 吴承云, 等.  $M(TNR) \cdot H_2O$  的热分解机理[J]. *无机化学*, 1987, 3(4): 121 - 127.
- HU Rong-zu, DU Zu-yue, WU Cheng-yun, et al. Thermal decomposition mechanisms on  $M(TNR) \cdot H_2O$  [J]. *Journal of Inorganic Chemistry*, 1987, 3(4): 121 - 127.
- [16] GJB377A - 94. 感度试验用数理统计方法[S]. 国防科学技术工业委员会, 1994.

## Probability Distribution of Current Sensitivity of Energetic Materials

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**Abstract:** The current sensitivity probability density function of energetic materials was deduced based on Frank-Kamenetskii parameter and resistance supposing as stochastic variable of normal distribution, by the application of the probability density formula of function in two random variables. The calculation method of current fire reliability of energetic materials was worked out too. Results show that the probability distribution of current sensitivity of energetic materials is not a simple mathematical function, but a very complicated function which is influenced by physical and chemical parameters of hot wire such as resistance, mass and specific heat, and influenced by physical and chemical parameters of energetic materials such as specific heat, density, reaction heat, frequency factor, thermal conductivity and activation energy.

**Key words:** military chemistry and pyrotechnics; energetic material; sensitivity; probability density function; reliability



### 会议信息(一)

#### 全国第十四届大环化学暨第六届超分子化学学术讨论会

会议主题: 大环化学和超分子化学的发展

会议内容: 1. 冠醚化学; 2. 环糊精化学; 3. 杯芳烃化学; 4. 卟啉与环蕃; 5. 大环多胺与其它大环; 6. 瓜环或葫芦环联脲; 7. 分子钳; 8. 超分子及其它。

承办单位: 西北师范大学 时间: 8月10-12日 地点: 甘肃省兰州市

联系人: 魏太保(兰州市安宁东路967号西北师范大学化学化工学院, 730070)

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#### 2008 全国高分子材料科学与工程学术论文报告会

会议主题: 新型高分子材料的合成、结构、性能、功能及其加工

会议内容: 1. 高分子材料的合成与反应; 2. 高分子材料凝聚结构和性能; 3. 功能高分子与高分子新材料; 4. 高分子材料的改性、复合及共混; 5. 高分子材料成型装备及新技术应用; 6. 高分子材料科学发展展望。

承办单位: 1. 清华大学 2. 贵州科学院 时间: 10月21-25日 地点: 上海市

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