Technology, 2009, 30(2): 246-250.

- [7] 沈铁华, 杨敬贤, 孙庆曼. 膏体推进剂发动机试验[J]. 推进技 术,2004,25(2):173-175. SHEN Tie-hua, YANG Jing-xian, SUN Qing-man. Experimental
 - investigation of pasty propellant rocket engine[J]. Journal of Propulsion Technology, 2004, 25(2): 173-175.
- [8] 徐亚龙, 陈淑秉. 膏状推进剂——种新型的能量管理型推进剂 [C]// 中国宇航学会固体火箭推进专业委员会 2001 年年会,
 - XU Ya-long, CHEN Shu-bing. Pasty Propellant-A kind of energy management propellant[C] // China aerospace society of professional committee of the solid rocket propulsion annual conference, 2001.
- [9] Rahimi S, Natan B. Atomization characteristics of gel fuels [R]. AIAA-98-3830: 1998.

- [10] 代玉东. 凝胶推进剂及其模拟剂的制备和特性表征[J]. 火箭推 进,2004,30(2):59-64.
 - DAI Yu-dong. Preparation and characterization of gelled propellant and simulants[J]. Journal of Rocket Propulsion, 2004, 30 (2):59-64.
- [11] 左博, 张蒙正. 凝胶推进剂直圆管中剪切速率与表观粘性实验研 究[J]. 火箭推进, 2007, 33(4): 12-15. ZUO Bo, ZHANG Meng-zheng. Experimental investigation of
 - the apparent viscosity and the shear rate of gelled propellant in straight round pipe[J]. Journal of Rocket Propulsion, 2007, 33 (4): 12-15.
- この理(二十三)[J]. 世界橡胶工业,2005, 5억 ruels[R]. WANG Zuo-ling. New rubber technology (Twenty-three)[J]. World Rubber Industry, 2005,32(2):50-54.

Constitutive Equation of Paste Propellant Based on Bagley Correction

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Abstract: In the process of fitting the constitutive equations, the Bagley correction method was brought in to obtain the correction parameters to refit the constitutive equation and reduce experimental errors caused by the viscosity of paste propellant. The experimental errors were reduced from 8% to less than 2% by using the Bagley correction method. The obtained curve of the constitutive equations were consistent with the experimental data. The results showed that the Bagley correction method had an obvious effect in improving the accuracy of the equation to a certain extent.

Key words: paste propellant; constitutive equation; Bagley correction; error processing

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《含能材料》"损伤与点火"征稿

含能材料的损伤特征与点火过程有密切的联系,炸药、推进剂的内部损伤及其对力学特性、安全特性和点火行为的影 响规律受到了含能材料学界的高度重视,为推动这一重要研究方向的学术交流,本刊特设立"损伤与点火"专栏。专栏主要 征集炸药、推进剂等含能材料的损伤观测与多尺度表征技术、含损伤的本构方程、准静态与动态损伤演化规律、损伤与破坏 的宏(细)观模式、损伤对起爆、爆炸、爆轰成长以及非冲击起爆行为的影响等方向的原创性研究论文。来稿请注明"损伤与 nnn.ene 点火"专栏。

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