3　结　论

(1)应变速率对三级配混凝土及湿筛二级配混凝土单轴拉伸的破坏形态有一定影响，随着应变速率的提高，试件断面骨料拉断部分的比例增大，断面形状也趋于平整.

(2)随着应变速率的提高，三级配混凝土与湿筛二级配混凝土的单轴抗拉强度均呈线性增长，并且三级配混凝土的强度增长速率略高于湿筛二级配混凝土，且明显高于普通混凝土.

(3)随着应变速率的提高，三级配混凝土与湿筛二级配混凝土峰值应力处的应变均有所提高，提高幅度随应变速率的提高而逐渐趋缓.

(4)三级配混凝土与湿筛二级配混凝土在不同应变速率下的应力-应变关系曲线形状相似，初始弹性模量随应变速率的提高而增大.

(5)三级配混凝土的单轴抗拉强度、峰值应力点处的应变普遍低于湿筛二级配混凝土，两者各项力学性能指标之间的比例关系基本保持在70%～80%，且该比例关系变化规律受应变速率的影响.

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A dynamic data stream classification algorithm based on MapReduce

FENG Lin[1,2], YAO Yuan[3], CHEN Feng[1], JIN Bo[*2]

(1. School of Computer Science and Technology, Faculty of Electronic Information and Electrical Engineering, Dalian University of Technology, Dalian 116024, China;
2. School of Innovation Experiment, Dalian University of Technology, Dalian 116024, China;
3. College of Information and Communication Engineering, Dalian Nationalities University, Dalian 116600, China)

Abstract: There are three difficulties in real-time dynamic data stream classification: real-time processing of massive data, tracking of concept drift and model updates, model's stability and robustness. To solve these problems, extreme support vector machine (ESVM) is combined with MapReduce framework, and a forgetting factor robust ESVM algorithm (FFR-ESVM) is proposed. The proposed algorithm amends the residuals by constructing a residual matrix, while improves the effect of new samples by forgetting factor. Experimental results show that the proposed algorithm can rapidly and effectively classify dynamic data stream, and the results are stable and less affected by noise interference.

Key words: data stream classification; incremental learning; extreme support vector machine (ESVM); MapReduce; forgetting factor; robustness