Short proposal abstract: Optimizing the tensile test for reduced variability

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Tensile strength and stiffness are routinely used to qualify paper products for the marketplace. These properties are required for paper to endure conversion and printing processes. Parameters for the test have long been established by committee yet there is an ever present requirement for reduced basis weight which can only be met with testing that has reduced variation. Previous research work using laser speckle photography has revealed stress concentration occurring in the scale of the average floc size. Therefore, it may be expected that reduced variability in the tensile test may be attained with the use of wider samples than the accepted standard. This project aims to investigate the nature of the variability of the tensile test to establish optimal test sample dimensions such that the variability in the test is appreciably reduced. The result would be new test specimen parameters that will provide lower variation in the test averages than current practice.