Ji-Huan He, AN ELEMENTARY INTRODUCTION TO RECENTLY DEVELOPED ASYMPTOTIC METHODS AND NANOMECHANICS IN TEXTILE ENGINEERING, **International Journal** of **Modern Physics B** (**IJMPB**) , **22(21)(**2008) **Page:** 3487 - 3578

This review is an elementary introduction to the concepts of the recently developed asymptotic methods and new developments. Particular attention is paid throughout the paper to giving an intuitive grasp for Lagrange multiplier, calculus of variations, optimization, variational iteration method, parameter-expansion method, exp-function method, homotopy perturbation method, and ancient Chinese mathematics as well. Subsequently, nanomechanics in textile engineering and E-infinity theory in high energy physics, Kleiber's 3/4 law in biology, possible mechanism in spider-spinning process and fractal approach to carbon nanotube are briefly introduced. Bubble-electrospinning for mass production of nanofibers is illustrated. There are in total more than 280 references

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