AN IMPROVED VARIABLE TAP-LENGTH ALGORITHM FOR STRUCTURE ADAPTATION (MonAmOR7)

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Abstract:
This paper investigates the variable tap-length algorithm for structure adaptation. Among existing algorithms, the Segmented Filter (SF) and Gradient Descent (GD) algorithms are of interest as both can track the tap-length variations quickly. In this paper, we first compare the SF and GD algorithms and show that each has advantages/disadvantages relative to the other. Then we propose an improved variable tap-length algorithm which not only has better performance, but also has less complexity, than existing algorithms. The proposed algorithm has great significance in both theory and applications.