Abstract

Processing and interpretation of genomic sequence by DSP (digital signal processing) tools has attracted many researchers in last two decades particularly, the protein coding regions (exons) detection have been a challenging task in bioinformatics. The three base periodicity (TBP) or period-3 property of exonic regions form basis for most researchers for identification purpose. Many DSP based model dependent and model independent techniques have been applied for identification but still improvement is needed. In this article, a simple model independent technique using Goertzel algorithms proposed for exonic regions detection. The potential of the proposed method have been evaluated on the basis of performance parameters like sensitivity, specificity and correlation coefficient and found that the proposed method provides better performance than conventional DFT methods.

References

1. J. Tuqnan and A. Rushdi, “A DSP Approach for finding the codon bias in DNA sequence,”


Index Terms

Computer Science  Signal Processing

Keywords
Protein coding regions, DNA (deoxyribonucleic acid) sequence, Goertzel algorithm, Period-3 property, Digital signal processing (DSP).