Input: Time series $\{Y_t\}_{t=1}^n$, threshold K_n, window size $h = \lfloor n\epsilon \rfloor$

Output: Estimated change-points $\widehat{\mathbf{k}} = (\hat{k}_1, \cdots, \hat{k}_{\hat{m}})$

Initialization: SNCP$(1, n, K_n, h)$, $\widehat{\mathbf{k}} = \emptyset$

Procedure: SNCP(s, e, K_n, h)

if $e - s + 1 < 2h$ **then**

  stop

else

  $\hat{k}^* = \arg\max_{k=s,\cdots,e} T_{s,e}(k)$;

  if $T_{s,e}(\hat{k}^*) \leq K_n$ **then**

    stop

  else

    $\widehat{\mathbf{k}} = \widehat{\mathbf{k}} \cup \hat{k}^*$;

    run SNCP$(s, \hat{k}^*, K_n, h)$ and SNCP$(\hat{k}^* + 1, e, K_n, h)$;

  end

end