**Supplementary Table 1**

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| **Supp. Table 1.** Pseudocode used to apply the direct pattern search algorithm to find local minima in the radial distance vector. |
| *Initialize optimization variables*  *Read center or pressure* **CP** *time series*  **Loop****for** *each* **CP** *data sample (t)*  *Select a 3-point set* (t - 1, t, t + 1)  # Check for a DOWNHILL pattern  *if* **CP**[t - 1] < **CP**[t] AND **CP**[t] < **CP**[t + 1]  *Store downhill time* [t – 1: t + 1]  *Store downhill speed* **CP**[t – 1:t + 1]/3  # Check for a VALLEY pattern  *if* **CP**[t - 1] > **CP**[t] AND **CP**[t] < **CP**[t + 1]  *Store local valley minimum* **CP**[t]  # output variables  *Sum of all local downhill time epochs and divide by CP duration (tau)*  *Average all local downhill speed (gamma)*  *Count local minima (min\_N)*  *Average all local minima (min\_L)*  *Variability of all local minima (min\_SD)*  *Identify global minimum (min\_G)*  *Calculate the difference between min\_L and min\_G (delta\_GL)* |