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"Study of the human postural control system during quiet standing using detrended fluctuation analysis"

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ABSTRACT:

The detrended fluctuation analysis is used to study the behavior of different time series obtained from the trajectory of the center of pressure, the output of the activity of the human postural control system.

The results suggest that these trajectories present two different regimes in their scaling properties: persistent (for high frequencies, short-range time scale) to antipersistent (for low frequencies, long-range time scale) behaviors.

The similitude between the results obtained for the measurements, done with both eyes open and eyes closed, indicate either that the visual system may be disregarded by the postural control system while maintaining the quiet standing, or that the control mechanisms associated with each type of information (visual, vestibular and somatosensory) cannot be disentangled with the type of analysis performed here.

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