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## ACCEPTED MANUSCRIPT

#### Fractal Dimension of EEG Signals and Heart Dynamics in Discrete Emotional States

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#### Highlights

- The most complex signals in EEG and HRV were found for Humour video clips
- The least complex signals in EEG and HRV were found for Fear video clips
- Vagally mediated HRV was higher for Humour and lower for Fear video clips

#### **Abstract**

In this study, we explored the fractal dimension (FD; a measure of signal complexity) of 28 EEG channels with positive and negative emotional states. The EEG of participants and their

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