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A momentary approach to timbre perception

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Timbre perception has long been recognized as one of the most complex aspects of auditory cognition, encompassing multiple acoustic dimensions that vary dynamically over time. This study introduces the concept of “momentary timbre” – the instantaneous auditory impression occurring at discrete temporal points. This aims to isolate temporal variability, allowing for its clear interpretation. Through a review of short-term auditory processing for timbre, it is confirmed that acoustic information is processed simultaneously using temporal windows of different precision. This asymmetric processing has significant implications for understanding the temporal dynamics of timbre perception. The study further examines the qualitative nature of these momentary auditory images in their relation to memory processes and other relevant auditory perception mechanisms. The momentary approach can provide a foundation for more precise analysis of complex timbral phenomena and suggests new directions for research in auditory perception.