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**Temporal organization of prosodic and segmental features in  
spoken Japanese**

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It is apparent that prosodic and segmental features of speech must be temporally coordinated in order to produce a consistent and meaningful message. The precise mechanism for the coordination, however, has not been clear. The present study looks into this problem in the case of word accent in spoken Japanese. The speech material consisted of utterances of Japanese words that were identical in the word accent type, in the number of morae, in vowel constituents, but were different in consonantal constituents (including a 'null' consonant) at a certain intervocalic position. As for the prosodic features, the fundamental frequency contours were analyzed using the command-response model, and the onset and the offset of the extracted accent command were used as indices of prosodic timing. As for the segmental features, the formant frequency trajectories of the vowels were analyzed using another command-response model, which allowed extraction of the onset of the articulatory command for a vowel nucleus as an index of segmental timing. Comparison of the timings of these commands provides a means for quantitative analysis of the relationship between segmental and prosodic features of speech, and leads to an understanding of the underlying mechanism for their temporal coordination.