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4MU7. Determination of musical meter using the method of autocorrelation. Judith C. Brown (Media Lab., MIT, Cambridge, MA 02139 and Wellesley College, Wellesley, MA 02181)

The melodic lines of examples of compositions from the baroque, classical, romantic, and contemporary periods have been studied in order to determine the musical meter by computer calculation. The method of autocorrelation is appropriate for this calculation since it is a measure of the frequency of occurrence of events following an event at time zero. If a greater frequency of events occurs on the downbeat of a measure as predicted by Palmer and Krumhansl ["Mental Representations for Musical Meter," *J. Exptl. Psychol.: Human Percept. Perform.* **16**, 728–741 (1990)], then a peak in the autocorrelation function should indicate the time for a single measure. The results of these calculations indicate that computer determination of tempo is quite feasible. Autocorrelation results will be presented in graphical form.