ACOUSTICS2008/2989
Time-Shift Sensor Noise Suppression Algorithm

Alain De Cheveigne

CNRS, Universite Paris 5, Ecole Normale Superieure, 29 rue d'Ulm, 75230 Paris, France

We propose a new method to remove sensor noise from multichannel data recordings. Each channel is projected on the span of the time-shifted neighboring channels, and replaced by its projection. Noise specific to any sensor is attenuated, whereas any signal component that loads more than one sensor is preserved. The inclusion of a range of time shifts allows the method to compensate for any delay or convolutional mismatch in the signal paths between sensors. The method is expected to be of use for microphone arrays to reduce sensor-specific noise, e.g. thermal noise, wind noise, or overloading. The new method extends a previous method for sensor noise suppression in physiological recordings (EEG, MEG), that performed the same operation without the delays.