Résumé du séminaire du 8 Septembre 2006
S. BLANCHARD - Stochastic resonance in parallel arrays of sensors

Stochastic resonance can be described as a nonlinear phenomenon by which the action of noise can improve the performance of a signal processing system. This nonlinear paradigm has been widely investigated in isolated sensors. One of the current topics under investigation is the study of stochastic resonance when sensors are replicated into parallel arrays. The talk will present results obtained during my first year of thesis [1,2] concerning neuronal transduction and parameter estimation by such parrallel arrays of nonlinear devices.

References

[1] S. Blanchard, D. Rousseau, F. Chapeau-Blondeau, "Noise enhancement of signal transduction by parallel arrays of nonlinear neurons with threshold and saturation", submitted to Neurocomputing.

[2] F. Chapeau-Blondeau, S. Blanchard, D. Rousseau, "Noise-enhanced Fisher information in parallel arrays of sensors with saturation", accepted in Physical Review E.