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Ivan W. Selesnick* (selesi@poly.edu), Polytechnic Institute of NYU, 6 Metrotech Center, Brooklyn, NY 11201. *The Decomposition of Signals into Resonance Components.*

Numerous signals arising from physiological and physical processes are not only non-stationary but also possess a mixture of sustained oscillations and non-oscillatory transients that are difficult to disentangle by linear methods. Examples of such signals include speech, biomedical and geophysical signals. This talk describes the decomposition of such signals into ‘resonance’ components: A high-resonance signal being comprised of sustained oscillations; a low-resonance signal being comprised mostly of non-oscillatory transients of unspecified shape and duration. The signal decomposition approach presented in this talk utilizes sparse signal representations and recently developed tunable Q-factor wavelet transforms. (Received January 14, 2011)