

## APPENDIX C

### THE FUNCTION LMS

```
function h = lms(varargin)
%LMS Least-mean-square FIR adaptive filter.
% H = ADAPTFILT.LMS(L, STEPSIZE, LEAKAGE, COEFFS, STATES) constructs an
FIR
% LMS adaptive filter H.
%
% L is the adaptive filter length (the number of coefficients or taps)
% and it must be a positive integer. L defaults to 10.
%
% STEPSIZE is the LMS step size. It must be a nonnegative scalar. You
can
% use the function MAXSTEP to determine a reasonable range of step
size
% values for the signals being processed. STEPSIZE defaults to 0.
%
% LEAKAGE is the LMS leakage factor. It must be a scalar between 0 and
1.
% If it is less than one, the leaky LMS algorithm is implemented.
LEAKAGE
% defaults to 1 (no leakage).
%
% COEFFS vector of initial filter coefficients. It must be a length L
% vector. COEFFS defaults to length L vector of all zeros.
%
% STATES vector of initial filter states. It must be a length L-1
vector.
% STATES defaults to a length L-1 vector of all zeros.
%
%
% See also ADAPTFILT/ALGORITHMS.

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% $Revision: 1.14.4.1 $ $Date: 2005/12/22 18:04:44 $

h = adaptfilt.lms;
construct(h, [0,5], 'Direct-Form FIR LMS Adaptive Filter', varargin{:});
```