

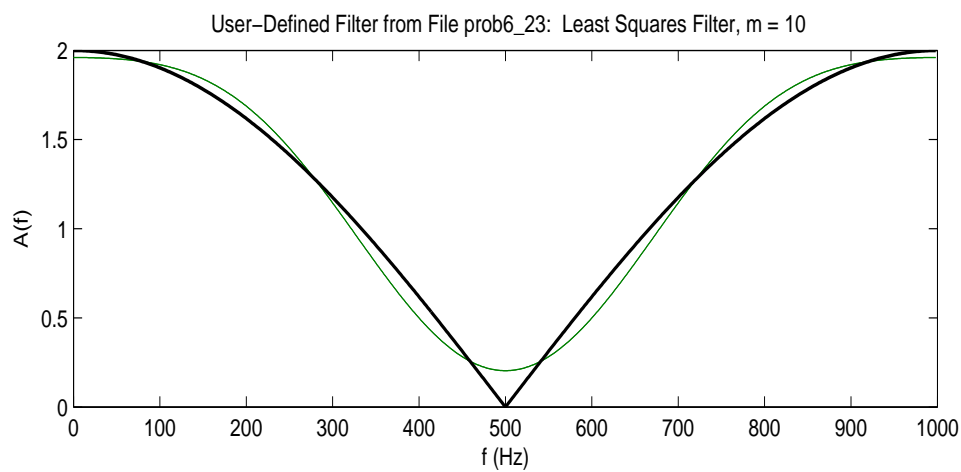
- 6.23** Write an amplitude response function for the following user-defined filter (see *u_fir1* for an example).

$$A_r(f) = 2 \left| \cos \left(\frac{2\pi f}{f_s} \right) \right|$$

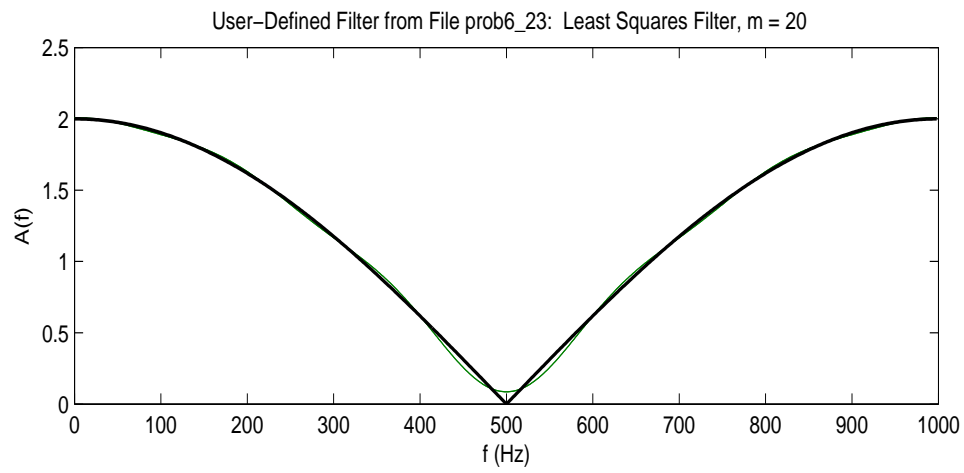
Then use the User-defined option of GUI module *g_fir* to load this filter. Select a least-squares filter. Plot the linear magnitude response for the following three cases.

- (a) $m = 10$
- (b) $m = 20$
- (c) $m = 40$

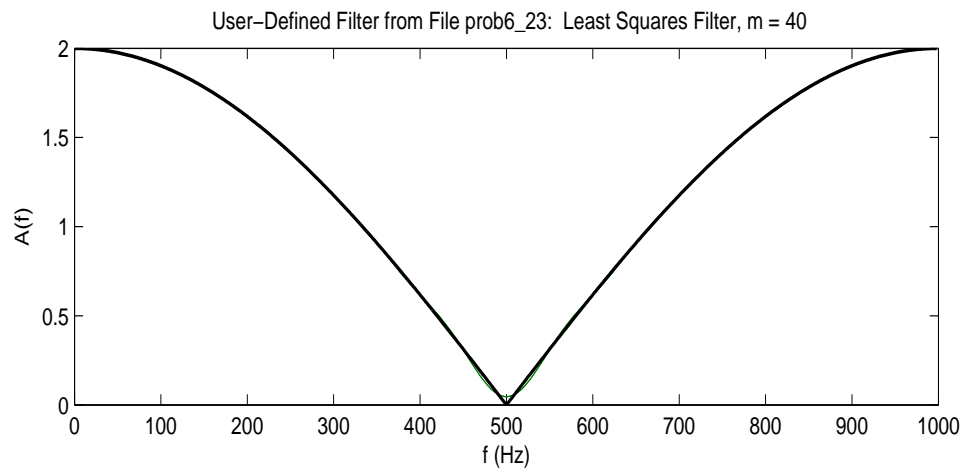
Solution



(a) Least-Squares Magnitude Response, $m = 10$



(b) Least-Squares Magnitude Response, $m = 20$



(c) Least-Squares Magnitude Response, $m = 40$