

# 1 TAYLOR SERIES FILTERS WEIGHTS

For the following tables,  $h$  is the scaling factor of the respective lattices. The weights are for filters that compute the first derivative along the  $x$  axis.

## 1.1 Filters for CC

TABLE 1  
 $2\text{-}cd$  (2-OF)

Lattice Coordinates	$h \cdot$ Weight
(1, 0, 0)	$-1/2$
(-1, 0, 0)	$1/2$

TABLE 2  
 $4\text{-}cd$  (4-OF)

Lattice Coordinates	$h \cdot$ Weight
(1, 0, 0)	$-2/3$
(-1, 0, 0)	$2/3$
(2, 0, 0)	$1/12$
(-2, 0, 0)	$-1/12$

## 1.2 Filters for BCC

TABLE 3  
 $SOCD$  (2-OF)

Lattice Site Coordinates	$h \cdot$ Weight
(2, 0, 0)	$-1/4$
(-2, 0, 0)	$1/4$

TABLE 4  
 $BCD$  (2-OF)

Lattice Site Coordinates	$h \cdot$ Weight
(1, $\pm 1$ , $\pm 1$ )	$-1/8$
(-1, $\pm 1$ , $\pm 1$ )	$1/8$

TABLE 5  
 $OPT16$  (4-OF)

Lattice Site Coordinates	$h \cdot$ Weight
(1, $\pm 1$ , $\pm 1$ )	$-1/6$
(-1, $\pm 1$ , $\pm 1$ )	$1/6$
(2, $\pm 2$ , $\pm 2$ )	$1/48$
(-2, $\pm 2$ , $\pm 2$ )	$-1/48$

TABLE 6  
 $OPT26$  (4-OF)

Lattice Site Coordinates	$h \cdot$ Weight
(1, $\pm 1$ , $\pm 1$ )	$-1/6$
(-1, $\pm 1$ , $\pm 1$ )	$1/6$
(2, 0, 0)	$-1/6$
(-2, 0, 0)	$1/6$
(2, 0, -2), (2, -2, 0), (2, 2, 0), (2, 0, 2)	$1/32$
(-2, 0, -2), (-2, -2, 0), (-2, 2, 0), (-2, 0, 2)	$-1/32$
(2, $\pm 2$ , $\pm 2$ )	$1/192$
(-2, $\pm 2$ , $\pm 2$ )	$-1/192$