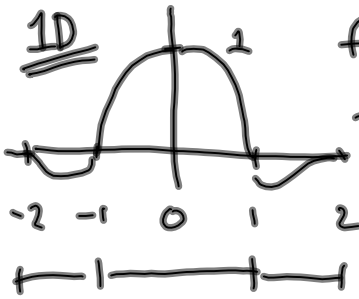
11-1

bicubic interpolation

motivated by sinc function interpolation

1D



$f_1(x) = |x|^3 - 2|x|^2 + 1, \quad 0 \le |x| < 1$

$f_2(x) = -|x|^3 + 5|x|^2 - 8|x| + 4, \quad 1 \le |x| < 2$

$f_{BC}(x) = \begin{cases} \cdot \\ \cdot \end{cases}$

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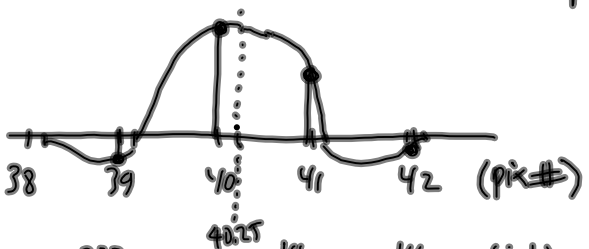
11-2

Example 1D cubic interp



237 211 143 143 (int)

$I_{cc}(40.25) = I(39) \cdot f(39 - 40.25) + I(40) \cdot f(40 - 40.25)$
$+ I(41) \cdot f(41 - 40.25) + I(42) \cdot f(42 - 40.25)$

$I_{cc} = 190.3$

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