$$c_j = -h\,(-8\cos(h) + 16\cos^2(h) + 6\,h\sin(h)\cos(h) + 6\,h\sin(h) - 8)/(4(h\cos^2(h) - 3\sin(h)\cos(h) + h\cos(h) - 2\,h + 3\sin(h))),$$

$$c_{j+1} = -h(4\cos(h) + \cos^2(h) + 3h\sin(h) - 5)/(4(h\cos^2(h) - 3\sin(h)\cos(h) + h\cos(h) - 2h + 3\sin(h))),$$

$$c_{j-1} = -h(4\cos(h) + \cos^2(h) + 3h\sin(h) - 5)/(4(h\cos^2(h) - 3\sin(h)\cos(h) + h\cos(h) - 2h + 3\sin(h))).$$

Table 5 shows the actual errors of the smooth polynomial and non-polynomial approximations, $h = 0.4, [a, b] = [-1,1]$.

Table 5. The actual errors of the smooth polynomial and non-polynomial approximations, $h = 0.4, [a, b] = [-1,1]$.

Function $u(x)$	Polynomial splines	Non-polynomial splines
$\sin(3x)$	$0.772 \cdot 10^{-4}$	$0.387 \cdot 10^{-4}$
$\sin(7x) - \cos(9x)$	$0.249 \cdot 10^{-1}$	$0.236 \cdot 10^{-1}$
$x^7 - x^9$	$0.110 \cdot 10^{-2}$	$0.121 \cdot 10^{-2}$
$1/(1 + 25\,x^2)$	$0.358 \cdot 10^{-1}$	$0.361 \cdot 10^{-1}$

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