$\lambda := \dfrac{k}{h}$

$BTCS := \dfrac{f(t,x) - f(t-k,x)}{k} + \left(\dfrac{a}{2\cdot h}\right)\cdot\left(f(t,x+h) - f(t,x-h)\right)$

$BOX224 := \left(\dfrac{1}{2\cdot k}\right)\cdot\left(f(t+k,x) + f(t+k,x+h) - f(t,x) - f(t,x+h)\right) + \left(\dfrac{a}{2\cdot h}\right)\cdot\left(f(t+k,x+h) - f(t+k,x) + f(t,x+h) - f(t,x)\right)$

$\phi := f(t,x) - a\cdot\lambda\cdot\left(f(t,x+h) - f(t,x)\right) + k\cdot\psi(t,x)$

$\chi := f(t,x-h) - a\cdot\lambda\cdot\left(f(t,x) - f(t,x-h)\right) + k\cdot\psi(t,x-h)$

$MacCormack := \left(\dfrac{1}{2}\right)\cdot\left(f(t,x) + \phi - a\cdot\lambda\cdot(\phi - \chi) + k\cdot\psi(t+k,x)\right) - f(t+k,x)$

$BOX323 := BOX224 - \left(\dfrac{1}{4}\right)\cdot\left(\psi(t+k,x+h) + \psi(t+k,x) + \psi(t,x+h) + \psi(t,x)\right)$

$mtaylor(BTCS, [h,k], 2)$

$$\mathrm{D}_1(f)(t,x) + a\,\mathrm{D}_2(f)(t,x) \qquad \textbf{(1)}$$

$mtaylor(BOX224, [h,k], 2)$

$$\mathrm{D}_1(f)(t,x) + a\,\mathrm{D}_2(f)(t,x) \qquad \textbf{(2)}$$

$mtaylor(MacCormack, [h,k], 4)$

$$-\left(a\,\mathrm{D}_2(f)(t,x) + \mathrm{D}_1(f)(t,x) - \psi(t,x)\right)k + \frac{\left(\mathrm{D}_{2,2}(f)(t,x)\,a^2 - \mathrm{D}_2(\psi)(t,x)\,a + \mathrm{D}_1(\psi)(t,x) - \mathrm{D}_{1,1}(f)(t,x)\right)k^2}{2} - \frac{a\,k\,h^2\,\mathrm{D}_{2,2,2}(f)(t,x)}{6} + \frac{a\,k^2\,\mathrm{D}_{2,2}(\psi)(t,x)\,h}{4} + \frac{\left(3\,\mathrm{D}_{1,1}(\psi)(t,x) - 2\,\mathrm{D}_{1,1,1}(f)(t,x)\right)k^3}{12} \qquad \textbf{(3)}$$

$mtaylor(BOX323, [h,k], 4)$

$$a\,\mathrm{D}_2(f)(t,x) + \mathrm{D}_1(f)(t,x) - \psi(t,x) - \frac{\left(-a\,\mathrm{D}_{2,2}(f)(t,x) + \mathrm{D}_2(\psi)(t,x) - \mathrm{D}_{1,2}(f)(t,x)\right)h}{2} - \frac{\left(-a\,\mathrm{D}_{1,2}(f)(t,x) + \mathrm{D}_1(\psi)(t,x) - \mathrm{D}_{1,1}(f)(t,x)\right)k}{2} - \frac{\left(-2\,a\,\mathrm{D}_{2,2,2}(f)(t,x) + 3\,\mathrm{D}_{2,2}(\psi)(t,x) - 3\,\mathrm{D}_{1,2,2}(f)(t,x)\right)h^2}{12} - \frac{\left(-a\,\mathrm{D}_{1,2,2}(f)(t,x) + \mathrm{D}_{1,2}(\psi)(t,x) - \mathrm{D}_{1,1,2}(f)(t,x)\right)k\,h}{4} - \frac{\left(-3\,a\,\mathrm{D}_{1,1,2}(f)(t,x) + 3\,\mathrm{D}_{1,1}(\psi)(t,x) - 2\,\mathrm{D}_{1,1,1}(f)(t,x)\right)k^2}{12} \qquad \textbf{(4)}$$