

Pensieve Header: Simplifying the Exact Solution.

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SetDirectory["C:\\drorbn\\AcademicPensieve\\2012-05\\beta5.1"];
<< betaCalculus.m
Unprotect[C];
βSimplify = FullSimplify;

{V = B[ω[c1, c2],
  α[c1, c2] t[1] h[1] + β[c1, c2] t[1] h[2] + γ[c1, c2] t[2] h[1] + δ[c1, c2] t[2] h[2]],
  C = B[κ[c1], 0]}

{ { ω[c1, c2]   h[1]   h[2]
  t[1]   α[c1, c2] β[c1, c2]
  t[2]   γ[c1, c2] δ[c1, c2] } , { κ[c1]
  t[1] } }

v[x_] := √  $\frac{\sinh\left[\frac{x}{2}\right]}{x/2}$  ;

κ[x_] := v[x]-1/2;
ω[c1, c2] =  $\frac{\kappa[c_1 + c_2]}{\kappa[c_1] \kappa[c_2]}$ ;
γ[c1, c2] =  $\frac{v[c_2] - v[c_1] v[c_1 + c_2]}{(c_1 + c_2) v[c_1] v[c_1 + c_2]}$ ;
δ[c1, c2] =  $\frac{e^{\frac{c_1}{2}}}{c_2} - \frac{v[c_1 + c_2] e^{c_1 + c_2} v[c_1] c_1}{(-1 + e^{c_1 + c_2}) v[c_2] c_2} - \frac{1}{c_1 + c_2}$ ;
α[c1, c2] =  $\frac{-c_2}{c_1} \gamma[c_1, c_2]$ ;
β[c1, c2] =  $\frac{1}{c_1} \left( e^{\frac{c_1}{2}} - c_2 \delta[c_1, c_2] - 1 \right)$ ;

{V1, C1, sol1} = Get["ExactSolution-120528.m"];
FullSimplify[V == V1 && C == C1]

True

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