Pensieve header: OneCo, the global picture.

```
SetDirectory["C:\\drorbn\\AcademicPensieve\\Projects\\OneCo-1604"];
<< Local.m
```

```
In the U(T)⊗U(H) conventions. Internal use symbols: {rr, pp}
```

Export

```
Exporting Snips\Ejk.pdf...
Exporting Snips\GlobalGeneralities.pdf...
Exporting Snips\VerifyingEjk.pdf...
Done.
Exporting Snips\Ejk.pdf...
Exporting Snips\GlobalGeneralities.pdf...
Exporting Snips\VerifyingEjk.pdf...
Done.
```

## Global Generalities

GlobalGeneralities

```
SnG[λ_, _][k_] := λ[k];
SnG[_, ω_][ω] := ω;
```

## E

Ejk

$$\mathbf{E}_{j\_,k\_,t\_} := \mathbf{SnG}\Big[\langle\Big|$$
$$j \to \mathbf{UU}\Big[\mathbf{a}[1, j, \infty] + \delta\mathbf{aa}[t, ç, \infty, j, k] +$$
$$\delta\mathbf{aa}\Big[\frac{-1+e^{-t\,b_j}}{b_j}, ç, k, j, \infty\Big] + \delta\mathbf{aa}\Big[-\frac{-1+e^{-t\,b_j}+t\,b_j}{b_j^2}, j, k, j, \infty\Big]\Big],$$
$$k \to \mathbf{UU}\Big[\mathbf{a}\Big[e^{t\,b_j}, k, \infty\Big] + \mathbf{a}\Big[-\frac{\left(-1+e^{t\,b_j}\right)b_k}{b_j}, j, \infty\Big] + \delta\mathbf{a}\Big[\frac{\left(-1+e^{t\,b_j}\left(1-t\,b_j\right)\right)b_k}{b_j^2}, j, \infty\Big] +$$
$$\delta\mathbf{a}\Big[\frac{\left(1+e^{t\,b_j}\left(-1+t\,b_j\right)\right)b_k}{b_j}, ç, \infty\Big] + \delta\mathbf{aa}\Big[\frac{-1+e^{t\,b_j}\left(1-t\,b_j\right)}{b_j}, ç, k, k, \infty\Big] +$$
$$\delta\mathbf{aa}\Big[\frac{1+e^{t\,b_j}\left(-1+t\,b_j\right)}{b_j^2}, j, k, k, \infty\Big] + \delta\mathbf{aa}\Big[\frac{b_j-e^{-t\,b_j}\,b_j+b_k+e^{t\,b_j}\left(-1+t\,b_j\right)b_k}{b_j^2},$$
$$ç, k, j, \infty\Big] + \delta\mathbf{aa}\Big[\frac{b_j+b_k+t\,b_j\,b_k-e^{t\,b_j}\,(b_j+b_k)}{b_j^2}, ç, \infty, j, k\Big] + \delta\mathbf{aa}\Big[\frac{1}{b_j^3}$$
$$e^{-t\,b_j}\left(b_j+e^{2\,t\,b_j}\left(b_j+\left(2-t\,b_j\right)b_k\right)-e^{t\,b_j}\left(2\,b_k+b_j\left(2+t\,b_k\right)\right)\right), j, k, j, \infty\Big]\Big]\Big|\rangle,$$
$$\mathbf{UU@a}[t, j, k]\Big];$$
$$\mathbf{E}_{j\_,k\_} := \mathbf{E}_{j,k,t};$$

VerifyingEjk

```
{E1,2,t[1], E1,2,t[2]} /. t → 0
```

VerifyingEjk

```
{UU[a[1, 1, ∞]], UU[a[1, 2, ∞]]}
```

VerifyingEjk

```
{D[E1,2,t[1], t], D[E1,2,t[2], t]}
```

VerifyingEjk

$$\left\{UU\left[\delta aa[1, ç, \infty, 1, 2] + \delta aa\left[-e^{-t\,b_1}, ç, 2, 1, \infty\right] + \delta aa\left[-\frac{1}{b_1} + \frac{e^{-t\,b_1}}{b_1}, 1, 2, 1, \infty\right]\right],\right.$$
$$UU\left[a\left[e^{t\,b_1}\,b_1, 2, \infty\right] + a\left[-e^{t\,b_1}\,b_2, 1, \infty\right] + \delta a\left[-e^{t\,b_1}\,t\,b_2, 1, \infty\right] +\right.$$
$$\delta a\left[e^{t\,b_1}\,t\,b_1\,b_2, ç, \infty\right] + \delta aa\left[e^{t\,b_1}\,t, 1, 2, 2, \infty\right] + \delta aa\left[-e^{t\,b_1}\,t\,b_1, ç, 2, 2, \infty\right] +$$
$$\delta aa\left[e^{-t\,b_1} + e^{t\,b_1}\,t\,b_2, ç, 2, 1, \infty\right] + \delta aa\left[-e^{t\,b_1} + \frac{b_2}{b_1} - \frac{e^{t\,b_1}\,b_2}{b_1}, ç, \infty, 1, 2\right] +$$
$$\left.\left.\delta aa\left[-\frac{e^{-t\,b_1}}{b_1} + \frac{e^{t\,b_1}}{b_1} - \frac{b_2}{b_1^2} + \frac{e^{t\,b_1}\,b_2}{b_1^2} - \frac{e^{t\,b_1}\,t\,b_2}{b_1}, 1, 2, 1, \infty\right]\right]\right\}$$

VerifyingEjk

```
{D[E1,2,t[1], t] - bb[1, 2][UU[a[1, 1, 2]], E1,2,t[1]],
 D[E1,2,t[2], t] - bb[1, 2][UU[a[1, 1, 2]], E1,2,t[2]]}
```

VerifyingEjk

```
{UU[0], UU[0]}
```