

Reducing $\text{Exp}(a_1 \text{Ar}[2,1] + a_2 \text{Ar}[1,2])$

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11:02 AM

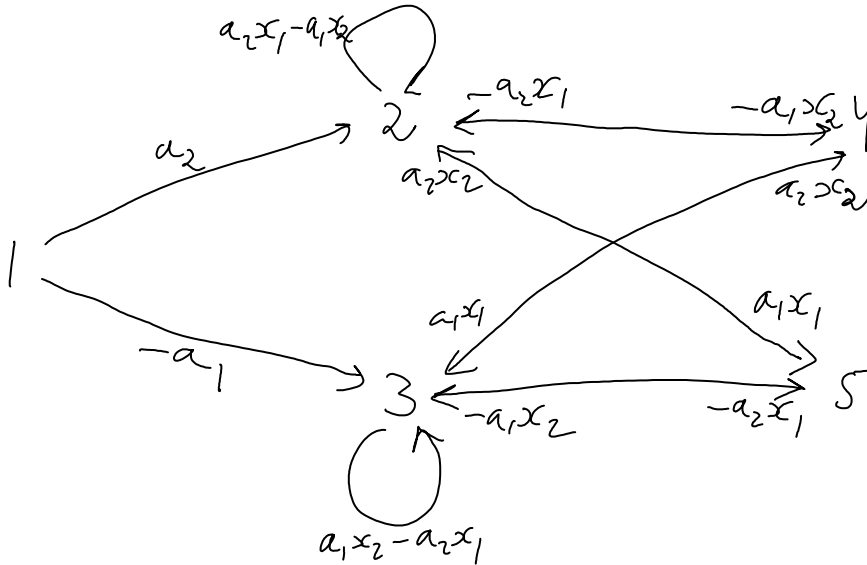
See 2008-12/ScatterAndGlow-Experiments-081229.nb.

```
Print /@ (Thread[
  Table[s[i], {i, Length[ins]}] == (ins /. Y[ijk_,_] :> Y[ijk])
]);
```

```
s[1]==Ar[0,1]
s[2]==Y[0,1,2]
s[3]==Y[0,2,1]
s[4]==Y[0,1,1]
s[5]==Y[0,2,2]
```

```
Print /@ (Thread[ins -> outs] /. Y[ijk_, h_] :> h Y[ijk] /. Thread[
  (ins /. Y[ijk_,_] :> Y[ijk]) -> Table[s[i], {i, Length[ins]}]
]);
```

```
s[1]->a2 s[2]-a1 s[3]
s[2]->a1 s[5] x[1]-a1 s[4] x[2]+s[2] (a2 x[1]-a1 x[2])
s[3]->a2 s[5] x[1]+a2 s[4] x[2]+s[3] (-a2 x[1]+a1 x[2])
s[4]->a2 s[2] x[1]+a1 s[3] x[1]
s[5]->a2 s[2] x[2]-a1 s[3] x[2]
```



$$S_2 = \begin{vmatrix} \cancel{a_2} & \\ & \end{vmatrix} \quad S_4 = \begin{vmatrix} \cancel{a_1} & \\ & \end{vmatrix}$$

with this state diagram, the fact that the square roots in the exponential are fake requires an explanation.