```
Exit[];

PrependTo[$Path, "D:\\Users\\Johannes\\Promotion\\Mathematica\\Packages"]; << JoFin`

a[i_] := 0; St[1] = P; St[2] = S; b[1, 1] = s P q; b[2, 1] = s S; b[i_, 2] := 0;
fk2 = Expand[FK[V, St, a, b, 2]]
```

$$\frac{1}{2} s^2 S^2 V^{(0,0,2)}[t, P, S] + P q s^2 S V^{(0,1,1)}[t, P, S] + \frac{1}{2} P^2 q^2 s^2 V^{(0,2,0)}[t, P, S] + V^{(1,0,0)}[t, P, S]$$

```
Expand[(fk2 /. q → 1) - (fk2 /. q → -1)]
```

$$2 P s^2 S V^{(0,1,1)}[t, P, S]$$

```
fk2 /. q → Sign[V^(0,1,1)[t, P, S]]
```

$$\frac{1}{2} s^2 S^2 V^{(0,0,2)}[t, P, S] + P s^2 S \text{Sign}\left[V^{(0,1,1)}[t, P, S]\right] V^{(0,1,1)}[t, P, S] + \frac{1}{2} P^2 s^2 \text{Sign}\left[V^{(0,1,1)}[t, P, S]\right]^2 V^{(0,2,0)}[t, P, S] + V^{(1,0,0)}[t, P, S]$$

```
a[i_] := 0; St[1] = P; St[2] = S1; St[3] = S2; b[1, 1] = s1 P q1;
b[1, 2] = s2 P q2; b[2, 1] = s1 S2; b[3, 2] = s2 S2; b[i_, 3] := 0;
b[2, 2] = 0; b[3, 1] = 0; fk3 = Expand[FK[V, St, a, b, 3]]
```

$$\frac{1}{2} s2^2 S2^2 V^{(0,0,0,2)}[t, P, S1, S2] + \frac{1}{2} s1^2 S2^2 V^{(0,0,2,0)}[t, P, S1, S2] + P q2 s2^2 S2 V^{(0,1,0,1)}[t, P, S1, S2] + P q1 s1^2 S2 V^{(0,1,1,0)}[t, P, S1, S2] + \frac{1}{2} P^2 q1^2 s1^2 V^{(0,2,0,0)}[t, P, S1, S2] + \frac{1}{2} P^2 q2^2 s2^2 V^{(0,2,0,0)}[t, P, S1, S2] + V^{(1,0,0,0)}[t, P, S1, S2]$$