The transformation of a `SEXT` is given as

$$\exp(:F_{\rm in}:)\exp(:a\mathtt{L}:)\exp(:H_2/2:)\exp(:b\mathtt{L}:)$$
$$\times\exp(:V_2:)\exp(:a\mathtt{L}:)\exp(:H_2/2:)\exp(:b\mathtt{L}:)\exp(:F_{\rm out}:)\,,$$

where L and H_2 are the Hamiltonians of a drift of length `L` and a thin sextupole kick with integrated strength `K2`:

$$H_2 = \frac{\mathtt{K2}}{3!}\Re(x-iy)^3\,,$$

respectively. The coeffients are $a\equiv 1/2-1/\sqrt{12}$ and $b=1/2-a$. Terms $\exp(:F_{\rm in}:)$ and $\exp(:F_{\rm out}:)$ are transformation
nonlinear fringes. The term $\exp(:V_2:)$ is a correction to adjust the third-order terms in L:

$$V_2 = \sum_{j=(x,y),k=(x,y)} -\frac{\beta}{2}H_{2,k}^2+\gamma H_{2,j}H_{2,k}H_{2,j,k}\,,$$

where $,i$ represents the derivative by x or y. We have also introduced two coefficients $\beta\equiv 1/6-1/\sqrt{48}$ and $\gamma=1/40-1$