

Take a field $\phi(x)$. Evolving in flow time yields

$$\tilde{\phi}(k, \tau) = e^{-k^2 \tau} \tilde{\phi}(k, 0)$$

$$\phi(x, \tau) = \frac{1}{2\pi} \int_{-\infty}^{\infty} dk e^{ikx} e^{-k^2 \tau} \int_{-\infty}^{\infty} dy e^{-iky} \phi(y, 0)$$

Then the magnetization is given as

$$\begin{aligned} \int_{-\infty}^{\infty} \phi(x, \tau) dx &= \frac{1}{2\pi} \int_{-\infty}^{\infty} dx \int_{-\infty}^{\infty} dk e^{ikx} e^{-k^2 \tau} \int_{-\infty}^{\infty} dy e^{-iky} \phi(y, 0) \\ &= \frac{1}{2\pi} \int_{-\infty}^{\infty} dk e^{-k^2 \tau} \int_{-\infty}^{\infty} dy e^{-iky} \phi(y, 0) \int_{-\infty}^{\infty} dx e^{ikx} \\ &= \int_{-\infty}^{\infty} dk \cancel{e^{-k^2 \tau}} \int_{-\infty}^{\infty} dy \cancel{e^{-iky}} \phi(y, 0) \delta(k) \\ &= \int_{-\infty}^{\infty} dy \phi(y, 0) \end{aligned}$$

Therefore the magnetization is conserved in flow time.