$\langle \sigma_{\mathrm{x}} \rangle = \tanh \frac{4\alpha x}{\Delta^2}$

$\langle \sigma_{\mathrm{y}} \rangle = 0$

$\langle \sigma_{\mathrm{z}} \rangle = 1/\cosh \frac{4\alpha x}{\Delta^2}$

x or p