To relax momentum, add a random perturbation coupling to the operator $\mathcal{O}$:

$$\mathcal{S} \to \mathcal{S} + \int d^d r d\tau h(r) \mathcal{O}(r,\tau) \quad \text{with } \overline{h(r)} = 0 \text{ and } \overline{h(r)h(r')} = h_0^2 \delta^d(r-r')$$

Solution of gravitational equations for small h_0 yields the resistivity

$$\rho(T) \sim h_0^2 \, T^{2(1+\Delta-z)/z} \, ,$$

where Δ is the dimension of $\mathcal{O}$. This agrees precisely with the *memory function* computation on a field theory with the operator $\overline{\mathcal{O}}$, and with $\chi_{JP} \neq 0$!