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# List of Abbreviations

<b>DL</b>	<b>D</b> ynamical <b>L</b> ocalization
<b>QCP</b>	<b>Q</b> uantum <b>C</b> ritical <b>P</b> oint
<b>BEC</b>	<b>B</b> ose <b>E</b> instein's <b>C</b> ondensate
<b>TDPT</b>	<b>T</b> ime <b>D</b> ependent <b>P</b> erturbation <b>T</b> heory
<b>BW</b>	<b>B</b> rillouin <b>W</b> igner
<b>BGS</b>	<b>B</b> ohigas- <b>G</b> iannoni- <b>S</b> chmit
<b>CBH</b>	<b>C</b> ambell- <b>B</b> aker- <b>H</b> ausdroff
<b>DKT</b>	<b>D</b> ouble <b>K</b> icked <b>T</b> op
<b>SKT</b>	<b>S</b> ingle <b>K</b> icked <b>T</b> op
<b>DOS</b>	<b>D</b> ensity <b>O</b> f <b>S</b> tate
<b>PR</b>	<b>P</b> articipation <b>R</b> atio
<b>HCB</b>	<b>H</b> ard <b>C</b> ore <b>B</b> oson
<b>SF</b>	<b>S</b> uper <b>F</b> luid
<b>MI</b>	<b>M</b> ott <b>I</b> nsulator
<b>SKHCB</b>	<b>S</b> ingle <b>K</b> icked <b>H</b> ard <b>C</b> ore <b>B</b> oson
<b>DKHCB</b>	<b>D</b> ouble <b>K</b> icked <b>H</b> ard <b>C</b> ore <b>B</b> oson
<b>CKT</b>	<b>C</b> oupled <b>K</b> icked <b>T</b> op
<b>FP</b>	<b>F</b> eingold <b>P</b> eres

# List of Symbols

$U(t_f \rightarrow t_i)/U(t)$	Time evolution operator
$\mathcal{U}$	Unitary operator
$G(t)$	Periodic Kick operator
$H_{\text{eff}}$	Effective time independent Hamiltonian
$H_{\text{VV}}$	Effective Hamiltonian by Van Vleck method
$H_{\text{BW}}$	Effective Hamiltonian by Brillouin-Wigner Method
$H(t)/H$	Time dependent Hamiltonian
$\mathbb{H}$	Hilbert space
$\mathbb{T}$	Space of time periodic functions
$H_0$	Undriven Hamiltonian
$V(t)$	Periodic time dependent potential
$E$	Energy
$\psi(x, t)$	Wave function
$\hbar$	Plank's constant
$\mathcal{F}$	Floquet operator
$T$	Time period
$\omega$	Driving frequency
$ \Phi(t)\rangle$	Floquet state/Floquet Mode
$\epsilon_\alpha$	Quasienergy
$V_0$	Time constant Fourier Coefficient of $V(t)$
$V_n/V_{-n}$	$n^{\text{th}}$ -order Fourier Coefficient of $V(t)$



$H_{m,n}$	Fourier transform of the Hamiltonian in BW method
$\alpha$	Angle in DKT/Kicking strength in HCBs system
$\eta$	Twisting about the $z$ axis in DKT
$j'_i s$	Angular momentum operator or SU(2) operator
$j$	Spin
$d$	Dimension
$J_+$	Ladder operator
$D_q$	Fractal dimension
$C_m^{(n)}$	Component of the $n$ -th eigen state
$\tilde{P}(l)$	Box probability of the eigen state
$\tau_q$	Scaling exponent
$q$	Scaling Parameter
$\phi$	Magnetic flux strength
$\gamma$	Hopping strength
$b_l^\dagger/f_l^\dagger$	Bosonic/Fermionic creation operator
$b_l/f_l$	Bosonic/Fermionic annihilation operator
$l/L$	Lattice site
$\tilde{b}_k/\tilde{b}_{k'}$	Fourier component of bosonic operator
$H_k$	Hamiltonian in momentum space for definite value of $k$
$k$	Momentum
$\sigma_x, \sigma_y, \sigma_z$	Pauli's matrices
$V_k$	Potential in momentum space for a definite value
$\nu$	Boost/Twist
$H_\nu^k$	Boosted Hamiltonian in momentum space
$\hat{j}$	Current operator
$\hat{j}_k$	Current operator in momentum space

$\mathcal{T}$	Time ordering
$\hat{l}$	Unit vector in SKHCB and DKHCB system
$l_x, l_y, l_z$	Component of unit vector $\hat{l}$
$\mu_k^\pm$	Quasienergy of Floquet operator in HCB system
$J(nT)$	Current flow through the system of periodically driven HCB
$J(\infty)$	Asymptotic current
$J_{\text{sat}}$	Saturated current
$W_d$	Work done on the system of periodically driven HCB
$W(\infty)$	Asymptotic work done
$W_{\text{sat}}$	Saturated work done
$\Delta$	Time interval between two kicks
$F(t)$	Driving Scheme
$\Omega_i$	Angular rotation rate or angular velocity
$\kappa_i$	Tortional rate
$\tilde{\epsilon}$	Rate of coupling between two individual systems
$C$	Chirality operator
$P$	Permutation operator
$\Omega$	Wave operator
$\mathcal{P}$	Projection operator