

LIST OF ABBREVIATION

HTS	-	High temperature superconductors
cm	-	Centimeter
°C	-	Degree-celsius
no.	-	Number
Fig.	-	Figure
a.m.u.	-	Atomic mass unit
CuO ₂	-	Copper oxide
Na	-	Sodium
K	-	Potassium
Hg	-	Mercury
Li	-	Lithium
Ag	-	Silver
Au	-	Gold
SC	-	Superconducting
Ce	-	Cerium
Fe	-	Iron
Mg	-	Magnesium
Y	-	Yttrium
Cu	-	Copper
Mo	-	Molybdenum
S	-	Sulfur
Se	-	Selenium
Rh	-	Rhodium
B	-	Boron
Ni	-	Nickel
C	-	Carbon
Pd	-	Palladium

U	-	Uranium
Ru	-	Ruthenium
Al	-	Aluminium
Pt	-	Platinum
Pr	-	Praseodymium
Co	-	Cobalt
Pb	-	Lead
Nd	-	Neodymium
Tl	-	Thallium
Sr	-	Strontium
Sm	-	Samarium
Ca	-	Calcium
Ba	-	Barium
Ge	-	Germanium
Nb	-	Niobium
La	-	Lanthanum
Lu	-	Lutetium
Ln	-	Lanthanides
R	-	Rare earth or actinides
Dy	-	Dysprosium
Ho	-	Holmium
Er	-	Erbium
Sb	-	Antimony
P	-	Phosphorus
Os	-	Osmium
As	-	Arsenic
F	-	Flourine
Gd	-	Gadolinium
QCP	-	Quantum critical point

CEF	-	Crystalline electric field
AF	-	Antiferromagnetic
HF	-	Heavy fermion
eV	-	Electron volt
μ_B	-	Bohr Magnetron
Vs	-	Verses
Pa	-	Pascal
SDW	-	Spin density wave.

LIST OF SYMBOLS

T_C	-	Transition temperature
k	-	Kelvin
h	-	Planck's constant
e	-	Charge of electron
Δ	-	Superconducting order parameter
ϕ	-	Magnetic order parameter
τ	-	Exchange interaction between conduction and localized electrons
J	-	Exchange interaction between localized electrons
U	-	Onsite interaction between conduction electrons
K_B	-	Boltzmann's constant
T_N	-	Néel temperature
\bar{S}	-	Sublattice Magnetization
J_1	-	Nearest antiferromagnetic coupling
J_2	-	Nearest neighbour ferromagnetic coupling
J_3	-	Next nearest neighbour antiferromagnetic coupling
J_{\perp}	-	Out-of-plane Fe-As exchange interaction
Ω	-	Ohm
V	-	Interlayer interaction between conduction electrons
E_f	-	Fermi Energy
v_F	-	Fermi velocity
ξ	-	Coherence length
χ	-	Magnetic susceptibility
T_m	-	Curie temperature
T^*	-	Characteristics temperature for HF system

c	-	Velocity of light
\vec{H}	-	Magnetic field
\vec{P}	-	Momentum operator
$\vec{\mu}$	-	Magnetic moment
\vec{A}	-	Electrical vector potential

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