article [utf8]inputenc
test Lucien Huber September 2022
document
$[2]^1{}_2[2]_1{}^2\imath Complexunit:^2=-1$
$[1]\mathrm{e}^1 exponentialfunction[2][$
]12exponential function
∂d
$[3][]^1 23^1[3][]^1 23^1[3][]D^1 2D3^1[3][]\delta^1 2\delta 3^1[3][]^1(2)(3)^1[3][]\Delta^1 2\Delta 3^1$
$[3][_]21,3Partialderivative$
$[3][_]21;3Covariantderivative$
[1][1]12
[1][1]12
$[1]\ 1\ [2][]\ ^1 2\ [2][ret]G_1\ (2)1Green's function$
$[1]\tilde{1}[2][]2Normalized 1=2(2\pi)^1$
$[2][]\ ^1 2^1 2=[1]2(2\pi)^1$
$[2][]\Theta^{(1)}\ (2)\ Heavisidestepfunction[2][]\delta^{(1)}\ (2)Diracdeltafunction$
$[2][]\delta^{(1)}\ (2)\ [2][][1]2NormalizedDiracdeltafunction:[1]2=(2\pi)^1\delta^1\ (2)$
$[2][\text{-m}^2][+]2^2 1[2][-m^2][1]2Positiveenergydeltafunction:[1]2=2^2 12^0$
$[2][\text{-m}^2][+]2^2 1[2][-m^2][1]2Normalizedpositiveenergydeltafunction:[1]2=[1]22\pi=2\pi 2^2 12^0$
$SR\mu\nu$
$[1][\mu]\delta_1 deltafunction$
$[3][]\mathrm{F}_1\ [2]\ Fouriertransformof2invariable1\colon\ F_1\ [2]=\int 12(1)3\cdot 1$
$[3][]\mathrm{F}_1^{-1}\ [2]\ inverseFouriertransformof2invariable1\colon\ F_1\ [2]=12\pi\int 1{-}3\cdot 12(1)$
$[3][\text{x}]\hat{2}Fouriertransformof2invariable1\colon\ \hat{2}\ (3)=\int 12(1)3\cdot 1$

$[3][\text{x}]\check{2}inverseFouriertransformof2invariable1\colon\ \hat{2}\ (3)=12\pi\int 1{-}3\cdot 12(1)[2][]\ \Phi_1(2)Onshellintegrationmeasure:\Phi($

F x y z k r p v q D
L
$[2][]1(2\ 1)\ [2][]1[2\ 1]\ [2][]1\{21\}[2][]1|21|[2][]1\|21\|[2][]O\left(2^1\right)$
$\sigma index.html\sigma\int\sin(x)$
hplanck's constant
cspeed of light Ggravitational constant eelectric charge mmass
gmetric tensor $\eta Minkoskimetrictensor+---[1][\mu\nu]_1 covariantMinkoskimetriccomponents+---[1][\mu\nu]^1 cont$
$[1][\mu\nu]_1 covariantmetrictensorcomponent[1][\mu\nu]^1 contravariantmetrictensorcomponenthweakmetrictensor$
$[1][\mu\nu]_1 weakcovariantmetrictensorcomponent[1][\mu\nu]^1 weakcontravariantmetrictensorcomponent[1][\alpha]11weakmetr$
$\bar{h}tracereversedweakmetrictensor[1][\mu\nu]_1 tracereversedweakcovariantmetrictensorcomponent:_1=-12[1][1][\mu\nu]^1 tr$
$\mathrm{h}^{TT}transversetracelessweakmetrictensor[1][ij]_1 transversetracelessweakcovariantmetrictensorcomponent:_{0\mu}=0$
RRiemann tensor [4]1234 - 1243 - $\alpha 241\alpha 3+\alpha 231\alpha 4$
$[1][\beta\mu\nu\rho]1RiemannTensortensorcomponent[1][\beta\mu\nu\rho]_1 fullycovariantRiemanntensorcomponent$
RRicci tensor $[1][\mu\nu]^1 contravariantRiccitensorcomponent[1][\mu\nu]_1 covariantRiccitensorcomponent$
$\mathrm{R}^{(1)}linearizedRiccitensor[1][\mu\nu]^1 contravariantlinearizedRiccitensorcomponent[1][\mu\nu]_1 covariantlinearizedRiccite$
RRicci scalar $\mathrm{R}^{(1)}linearizedRicciscalar$
TStress-Energy tensor, or energy-momentum tensor $[1][\mu\nu]^1 contravariantStress-Energytensorcomponent[1][\mu\nu]_1 c$
$\varepsilon Polarizationtensor[1][\mu\nu]^1 contravariantPolarizationtensorcomponent[1][\mu\nu]_1 covariantPolarizationtensorcompo$
$[1]1^* conjugateof1$
$\varepsilon^* ConjugatePolarizationtensor[1][\mu\nu]^1 contravariantconjugatePolarizationtensorcomponent[1][\mu\nu]_1 covariantcon$
$[2][\mu]2_1 covariantmathbftorcomponent[2][\mu]2^1 contravariantmathbftorcomponent$
Ssource tensor $[1][\mu\nu]_1 covariantsourcetensorcomponent[1][\mu\nu]^1 contravariantsourcetensorcomponent[1][\alpha]^1{}_1 source$
$[1][^\mu_\nu]\delta 1Kroneckerdelta\Lambda cosmologicalconstant$
$[3]\Gamma 123Levi-CivitaConnection:\Gamma 123=12[1\rho]\left[\right][\rho 1]2+[\rho 2]1-[21]\rho$
$[2][]_1\langle 2|Quantumstatebra,dualtoket,alinearformontheHilbertspace:2:H\to C$
$[2][]_1|2\rangle Quantumstateket,avectoroftheHilbertspace:2\in H$

[1]1 [1]1Observable: 1
[1]1 [1]1Operator: 1
[2]$\langle 2|1|2\rangle$[2]12$Expectationvalue$:12
[2]$\langle 1|2\rangle$[2]12$Innerproduct$:12
[2][1,2] [2]12Commutator: 12
[3]$\langle 1|2|3\rangle$[3]123$Matrixelement$:123
§SS-matrix TTransfer-matrix
[1][O]$\mathrm{I}_v(1)$[1][O][1]$Virtualintegrand$:[1]
[1][O]$\mathrm{I}_r(1)$[1][O][1]$Realintegrand$:[1]
[3][O]2-3Δ1
[3][O][1]23Observable change: [1]23
[2]A(1$\rightarrow$ 2)[2]12$Amplitude$:12