?
?
?
?
{[1], . . . , [K]}
∈
mod-
u-
la-
tions
in
the
non-
lin-
ear
Fourier
do-
main
?
?
?
?
?
??
??
??
??
??
??
??
??
??
??
??
transmitterillustratethestructureoftheNFDMtransmittertogetherwiththespecifictransmitterDSPchain.Asitcanbes
[i]
w
[i]
=
∑+∞
i=−∞ [i]
[Tx]
transmitter.pngBlockdiagramoftheNFDMtransmitter
{bl}
Tb
=
/
?
?
?
?
digital_modulator.pdfNFDMbitmapperandINFTblock
digital_modulator.Aserial−
to−
parallelconverterpartitionsthedatabinarysequenceinblocksoflength, eachofwhichconstitutesasingledataframe.Eachbl
blocksoflength, whereisthenumberofeigenvaluesused.Eachofthebitsofthesub−
blockaremappedtooneofthe
k
[][i]
i =
1, ..., N
?
M
s =
M
part_eigenvalues.jpgThetimeprofileattheinputofthefiberofthemultisolitoncorrespondingtotheeigenvalues{
}isshownin(a)and(b)inthetwocaseswherethelogarithmoftheabsolutevalueofissetto{
}and{
}.Inthefirstcasethecomponentsofthemultisolitondispersemakingthereceivedsignal(e)leakoutsidetheprocessingwindo
??
part_eigenvalues(a).Atthetransmitterthemulti−
solitonfitsintothe1symbolperiod.Atthemaximumtransmissiondistancethemulti−
solitionbreaksupinto3separatedfundamentalsolitons(fig : real_part_eigenvalues(c))andhasadurationof2, sothatonlythec
soliton.
?
?
?
?
?
?
space_distribution.
space_distribution.jpgThenon − equallyspacedeigenvalueconstellationtakesintoaccountthenoisevarianceproportionalto
??
?
?
?
part_eigenvalues.Inthiswaythesymbolperiodcanbereducedwithacorrespondingincrementofthesymbolrateofthesystem.T
sweep_constellations.png(a)PAPRofthesignalasafunctionoftheangleθ
θ
π/4
?
?
?
?
?
O(NK)
N <