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TUB registration: 202240701-ges8/ges8I0np.pdf /.ps
application for evaluation and measurement of display or print output
TUB material: code=rh4tra

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%*****
%BEG Frame File Linearization Method FF_LM, real (re) hex (h) and decimal (d)
0 setgray
0 0 moveto 6000 0 rlineto 0 4000 rlineto %relative square
-6000 0 rlineto closepath stroke %60mm x 40 mm
/xdx 050 def /ydd 138 def %x-position and line difference
TBL 0 setgray %font, size and black color
xdd 3820 moveto %stop position and table text
(Table xreh_yred_256 for relation between data in hex and digital) shown Main Table text
(Tablelle xreh_yred_256, Zusammenhang Daten in hex und digital) showde
/xrehj 257 array def /yrehj 257 array def %real data hex (h)
/xredj 257 array def /yredj 257 array def %real data decimal (d)
/gamma 1.000 def %possible gamma changes: 1,0 -> 2,0, 0,5, 1,5, 0,667
%calculation of the table xyreh256 (h=hex) of 256 values (h 0:255) with gamma
0 1 255 {/j exch def %j=0,255
xrehj j j put %BEG h 0:255
xredj j j 255 div put %decimal (d 0:1,000)
yrehj j j 255 div gamma exp put %decimal (d 0:1,000)
yredj j yredj j get 255 mul cvi put %END h 0:255
} for %j=0,255
TBV /yw0 3650 def xdd yw0 moveto %font, size, position
(Table xreh_yred_256, real data in hex (h, 0:255), ) shown Sub Table text
(decimal (d, 0:1,000), ) shown
(Tablelle xreh_yred_256, reale Daten hex (h, 0:255), ) showde
(decimal (d, 0:1,000), ) showde
1 0 0 setrgbcolor (gamma=) show gamma cvsshows3g 0 setgray %gamma value in red
TW /yw1 yw0 1.1 ydd mul sub def %font, size, position
0 1 255 {/j exch def %j=0,255
/jo j 10 idiv def
/jd j jo 10 mul sub def
xdd jd 600 mul add yw1 jo ydd mul sub moveto
xrehj j get cvshow ( ) show yredj j get cvsshows3g %output Output xrehj, yredj
} for %j=0,255
%END Frame File Linearization Method FF_LM, real (re) hex (h) and decimal (d)
%*****
ges80-3n

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Table xreh_yred_256 for relation between data in hex and digital
Table xreh_yred_256, real data in hex (h, 0:255), decimal (d, 0:1,000), gamma=1,000

0	0,000	1	0,003	2	0,007	3	0,011	4	0,015	5	0,019	6	0,023	7	0,027	8	0,031	9	0,035
10	0,039	11	0,043	12	0,047	13	0,050	14	0,054	15	0,058	16	0,062	17	0,066	18	0,070	19	0,074
20	0,078	21	0,082	22	0,086	23	0,090	24	0,094	25	0,098	26	0,101	27	0,105	28	0,109	29	0,113
30	0,117	31	0,121	32	0,125	33	0,129	34	0,133	35	0,137	36	0,141	37	0,145	38	0,149	39	0,152
40	0,156	41	0,160	42	0,164	43	0,168	44	0,172	45	0,176	46	0,180	47	0,184	48	0,188	49	0,192
50	0,196	51	0,200	52	0,203	53	0,207	54	0,211	55	0,215	56	0,219	57	0,223	58	0,227	59	0,231
60	0,235	61	0,239	62	0,242	63	0,246	64	0,250	65	0,254	66	0,258	67	0,262	68	0,266	69	0,270
70	0,274	71	0,278	72	0,282	73	0,286	74	0,290	75	0,294	76	0,298	77	0,301	78	0,305	79	0,309
80	0,313	81	0,317	82	0,321	83	0,325	84	0,329	85	0,333	86	0,337	87	0,341	88	0,345	89	0,349
90	0,352	91	0,356	92	0,360	93	0,364	94	0,368	95	0,372	96	0,376	97	0,380	98	0,384	99	0,388
100	0,392	101	0,396	102	0,400	103	0,403	104	0,407	105	0,411	106	0,415	107	0,419	108	0,423	109	0,427
110	0,431	111	0,435	112	0,439	113	0,443	114	0,447	115	0,450	116	0,454	117	0,458	118	0,462	119	0,466
120	0,470	121	0,474	122	0,478	123	0,482	124	0,486	125	0,490	126	0,494	127	0,498	128	0,501	129	0,505
130	0,509	131	0,513	132	0,517	133	0,521	134	0,525	135	0,529	136	0,533	137	0,537	138	0,541	139	0,545
140	0,549	141	0,552	142	0,556	143	0,560	144	0,564	145	0,568	146	0,572	147	0,576	148	0,580	149	0,584
150	0,588	151	0,592	152	0,596	153	0,600	154	0,603	155	0,607	156	0,611	157	0,615	158	0,619	159	0,623
160	0,627	161	0,631	162	0,635	163	0,639	164	0,643	165	0,647	166	0,650	167	0,654	168	0,658	169	0,662
170	0,666	171	0,670	172	0,674	173	0,678	174	0,682	175	0,686	176	0,690	177	0,694	178	0,698	179	0,701
180	0,705	181	0,709	182	0,713	183	0,717	184	0,721	185	0,725	186	0,729	187	0,733	188	0,737	189	0,741
190	0,745	191	0,749	192	0,752	193	0,756	194	0,760	195	0,764	196	0,768	197	0,772	198	0,776	199	0,780
200	0,784	201	0,788	202	0,792	203	0,796	204	0,800	205	0,803	206	0,807	207	0,811	208	0,815	209	0,819
210	0,823	211	0,827	212	0,831	213	0,835	214	0,839	215	0,843	216	0,847	217	0,850	218	0,854	219	0,858
220	0,862	221	0,866	222	0,870	223	0,874	224	0,878	225	0,882	226	0,886	227	0,890	228	0,894	229	0,898
230	0,901	231	0,905	232	0,909	233	0,913	234	0,917	235	0,921	236	0,925	237	0,929	238	0,933	239	0,937
240	0,941	241	0,945	242	0,949	243	0,952	244	0,956	245	0,960	246	0,964	247	0,968	248	0,972	249	0,976
250	0,980	251	0,984	252	0,988	253	0,992	254	0,996	255	1,000								

For gamma=1 and j=0 to 255: xreh(j)=yreh(j)=j, xred(j)=xreh(j)/255, yred(j)=yreh(j)/255

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%*****
%BEG Frame File Linearization Method FF_LM, real (re), invers (in), hex (h), decimal (d)
/xdx 050 def /ydd 138 def %x-position and line difference
TBL 0 setgray %font, size and black color
xdd 3820 moveto %stop position and table text
(Table xyreh_256 for fast calculation of inverse data xyinh256) show Main Table text
/xrehj 257 array def /yrehj 257 array def %real data hex (h)
/xredj 257 array def /yredj 257 array def %real data decimal (d)
/xinhj 257 array def /yinhj 257 array def %inverse (in) data hex (h)
/xindj 257 array def /yindj 257 array def %invers (in) data decimal (d)
TBV /yw0 3650 def %font, size, position
xdd yw0 moveto Sub Table text
(Table xreh_yred_256, real data in hex (h, 0:255) for output linearization, ) show
1 0 0 setrgbcolor (gamma=) show gamma cvsshows3g 0 setgray
%Procedure for transfer xrehj, yrehj -> xinhj, yinhj
%use of the table data xyreh256 (h=hex) of real values (reh) with gamma
/FF_LM_xchart_gammaF {$BEG /FF_LM_xchart_gammaF 240715
/yreh exch def %0<= yreh <=255
xinhj j yrehj yreh get put %invers data yrehj->xinhj
yinhj j xrehj yreh get put %invers data xrehj->yinhj
yinhj j get %output of yinhj
} def %END /FF_LM_xchart_gammaF 240715
%Application of FF_LM_xchart_gammaF and output
TW /yw1 yw0 1.1 ydd mul sub def
0 1 255 {/j exch def %j=0,255
xrehj j get FF_LM_xchart_gammaF
%available now xinhj, yinhj
xindj j xinhj j get 255 div put
yindj j yinhj j get 255 div put
/jo j 10 idiv def /jd j jo 10 mul sub def
xdd jd 600 mul add yw1 jo ydd mul sub moveto
xinhj j get cvshow ( ) show yinhj j get cvshow
} for
%Output xinhj, yinhj
xdd 050 moveto
(For gamma=1 and j=0,255: xinhj=yinhj=xrehj=yrehj=j) show
(similar for decimal values xindj=yindj=xredj=yredj=yinhj/255) show
%END Frame File Linearization Method FF_LM, real (re) hex (h) and decimal (d)
%*****
ges80-7n

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Table xyreh_256 for fast calculation of inverse data xyinh256
Table xreh_yred_256, real data in hex (h, 0:255) for output linearization, gamma=1,000

0	0	1	2	3	4	5	6	7	8	9
10	11	11	12	12	13	13	14	14	15	15
20	21	21	22	22	23	23	24	24	25	25
30	31	31	32	32	33	33	34	34	35	35
40	41	41	42	42	43	43	44	44	45	45
50	51	51	52	52	53	53	54	54	55	55
60	61	61	62	62	63	63	64	64	65	65
70	71	71	72	72	73	73	74	74	75	75
80	81	81	82	82	83	83	84	84	85	85
90	91	91	92	92	93	93	94	94	95	95
100	100	101	101	102	102	103	103	104	104	105
110	110	111	111	112	112	113	113	114	114	115
120	120	121	121	122	122	123	123	124	124	125
130	130	131	131	132	132	133	133	134	134	135
140	140	141	141	142	142	143	143	144	144	145
150	150	151	151	152	152	153	153	154	154	155
160	160	161	161	162	162	163	163	164	164	165
170	170	171	171	172	172	173	173	174	174	175
180	180	181	181	182	182	183	183	184	184	185
190	190	191	191	192	192	193	193	194	194	195
200	200	201	201	202	202	203	203	204	204	205
210	210	211	211	212	212	213	213	214	214	215
220	220	221	221	222	222	223	223	224	224	225
230	230	231	231	232	232	233	233	234	234	235
240	240	241	241	242	242	243	243	244	244	245
250	250	251	251	252	252	253	253	254	254	255

For gamma=1 and j=0 to 255: xinhj=yinhj=xrehj=yrehj=j, similar for decimal values xindj=yindj=xredj=yredj=yinhj/255