

Flexible Serially Concatenated Convolutional Turbo Codes with Near-Shannon Bound Performance for Telemetry Applications

TECHNICAL CORRIGENDUM 1

The Management Council of the Consultative Committee for Space Data Systems (CCSDS) has authorized the publication of technical corrigendum 1 to CCSDS 131.2-O-1, issued September 2007.

Page 4-5

Last paragraph under 4.4.2 PUNCTURING SYSTEMATIC BITS, insert after second sentence:

“The puncturing of the systematic bits can be described by the following algorithm:

- a) A pattern of 300 elements (from 0 to 299) is obtained as indicated above, with 0s at the positions indicated by table 4-2 (puncturing positions) and 1s elsewhere.
- b) For each position $i=0:I-1$ of the upper register containing the systematic bits (excluding the two terminating bits, always transmitted), the index j is computed as the interleaved position corresponding to i , modulus 300, i.e. $j = |\pi(i)|_{300}$.
- c) The position i in the upper register is punctured if the pattern of point a) contains a 0 at the position j .”

Distribution Control Number: TC 11-09

Reference Number: CCSDS 131.2-O-1 Cor. 1

NOTE – Current versions of CCSDS documents are maintained at the CCSDS Web site:

<http://www.ccsds.org/>

Correspondence regarding CCSDS documents should be addressed to

CCSDS Secretariat
Space Communications and Navigation Office, 7L70
Space Operations Mission Directorate
NASA Headquarters
Washington, DC 20546-0001, USA

TECHNICAL CORRIGENDUM 2 TO CCSDS 131.2-O-1 (Continued)

Page 4-6

Table 4-2, replace table body with the following:

Index	S _{sur}	Rate	Punct. Pos.	Index	S _{sur}	Rate	Punct. Pos.
1	299	0.6689	76	51	249	0.8032	72
2	298	0.6711	1	52	248	0.8065	15
3	297	0.6734	145	53	247	0.8097	297
4	296	0.6757	214	54	246	0.8130	211
5	295	0.6780	256	55	245	0.8163	138
6	294	0.6803	37	56	244	0.8197	102
7	293	0.6826	109	57	243	0.8230	174
8	292	0.6849	181	58	242	0.8264	39
9	291	0.6873	277	59	241	0.8299	250
10	290	0.6897	235	60	240	0.8333	57
11	289	0.6920	55	61	239	0.8368	120
12	288	0.6944	127	62	238	0.8403	156
13	287	0.6969	163	63	237	0.8439	84
14	286	0.6993	19	64	236	0.8475	229
15	285	0.7018	199	65	235	0.8511	193
16	284	0.7042	91	66	234	0.8547	283
17	283	0.7067	289	67	233	0.8584	262
18	282	0.7092	244	68	232	0.8621	25
19	281	0.7117	64	69	231	0.8658	238
20	280	0.7143	268	70	230	0.8696	60
21	279	0.7168	223	71	229	0.8734	201
22	278	0.7194	136	72	228	0.8772	294
23	277	0.7220	172	73	227	0.8811	132
24	276	0.7246	28	74	226	0.8850	96
25	275	0.7273	100	75	225	0.8889	159
26	274	0.7299	190	76	224	0.8929	34
27	273	0.7326	10	77	223	0.8969	265
28	272	0.7353	46	78	222	0.9009	114
29	271	0.7380	118	79	221	0.9050	177
30	270	0.7407	154	80	220	0.9091	225
31	269	0.7435	81	81	219	0.9132	79
32	268	0.7463	207	82	218	0.9174	12
33	267	0.7491	259	83	217	0.9217	151
34	266	0.7519	292	84	216	0.9259	51
35	265	0.7547	232	85	215	0.9302	274
36	264	0.7576	67	86	214	0.9346	204
37	263	0.7605	280	87	213	0.9390	105
38	262	0.7634	247	88	212	0.9434	4
39	261	0.7663	147	89	211	0.9479	241
40	260	0.7692	30	90	210	0.9524	169
41	259	0.7722	111	91	209	0.9569	69
42	258	0.7752	183	92	208	0.9615	124
43	257	0.7782	6	93	207	0.9662	22
44	256	0.7813	48	94	206	0.9709	216
45	255	0.7843	93	95	205	0.9756	285
46	254	0.7874	165	96	204	0.9804	141
47	253	0.7905	129	97	203	0.9852	252
48	252	0.7937	219	98	202	0.9901	187
49	251	0.7968	195	99	201	0.9950	206
50	250	0.8000	270	100	200	1.0000	36

TECHNICAL CORRIGENDUM 2 TO CCSDS 131.2-O-1 (Continued)

Annex C

first paragraph, replace “writes/reads” with “writes”

second paragraph, replace “writes/reads” with “reads”; replace “writing/reading” with “reading”