TABLE I

NUMBER OF CYCLES WITH DIFFERENT LENGTHS IN FOUR LDPC CODES

Cycle length	g	g+2	g+4	g +6	g +8	g +10
(3, 6)-Regular (504, 252) g = 8	1008	11718	83538	719271	6213312*	44975686
2640[C1] g = 8	990	12870	91355	740850	6447210*	46438810
PEGirReg 504×1008 g = 6	11538	408657	13110235	456677355*	16032995586*	
PEGReg 504×1008 g = 8	2	11238	91101	748343	6493703*	56670375*
8000[C2] g = 6	179	1218	9989	83089*	711987*	
10000[C3] g = 6	161	1260	10051	83237*	713646*	
CCSDS 7156×8176 g = 6	121618*	9594536*	692628818*	53914731591*	4268812405053*	

* Only for the proposed scheme.

+ Construction with random circulant permutation matrix

2640[C1]: Margulis2640.1320.3

8000[C2]: 8000.4000.3.483

10000[C3]: 10000.10000.3.631