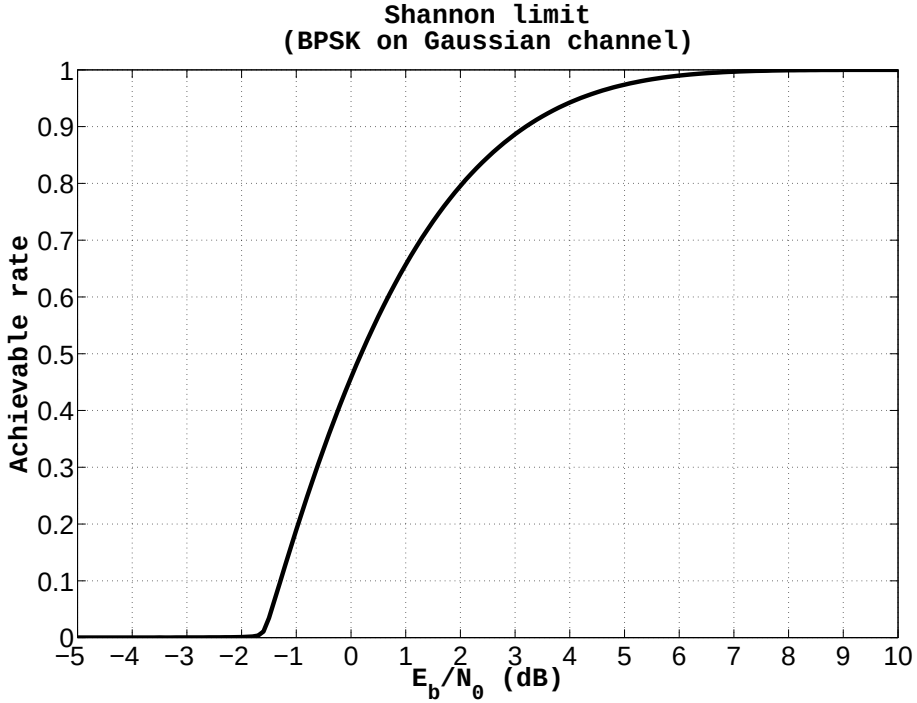
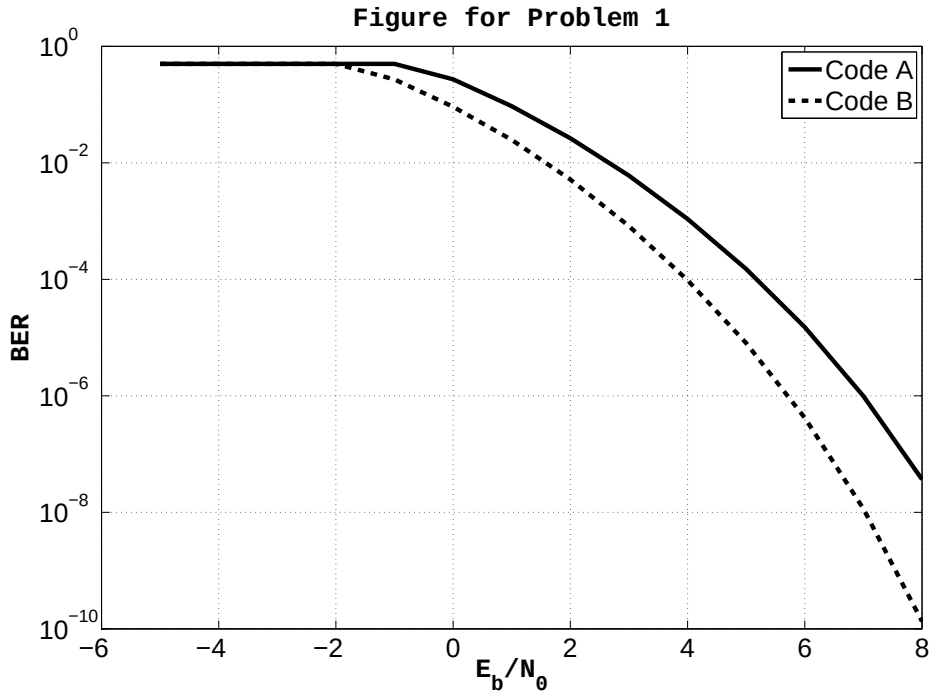
$GF(2^6)$ with $p(\alpha) = 1 + \alpha + \alpha^6$

Exp	Polynomial						Binary
0	0						(000000)
1	1						(100000)
α		α					(010000)
α^2			α^2				(001000)
α^3				α^3			(000100)
α^4					α^4		(000010)
α^5						α^5	(000001)
α^6	1	$+\alpha$					(110000)
α^7		α	$+\alpha^2$				(011000)
α^8			α^2	$+\alpha^3$			(001100)
α^9				α^3	$+\alpha^4$		(000110)
α^{10}					α^4	$+\alpha^5$	(000011)
α^{11}	1	$+\alpha$				$+\alpha^5$	(110001)
α^{12}	1		$+\alpha^2$				(101000)
α^{13}		α		$+\alpha^3$			(010100)
α^{14}			α^2		$+\alpha^4$		(001010)
α^{15}				α^3		$+\alpha^5$	(000101)
α^{16}	1	$+\alpha$			$+\alpha^4$		(110010)
α^{17}		α	$+\alpha^2$			$+\alpha^5$	(011001)
α^{18}	1	$+\alpha$	$+\alpha^2$	$+\alpha^3$			(111100)
α^{19}		α	$+\alpha^2$	$+\alpha^3$	$+\alpha^4$		(011110)
α^{20}			α^2	$+\alpha^3$	$+\alpha^4$	$+\alpha^5$	(001111)
α^{21}	1	$+\alpha$		$+\alpha^3$	$+\alpha^4$	$+\alpha^5$	(110111)
α^{22}	1		$+\alpha^2$		$+\alpha^4$	$+\alpha^5$	(101011)
α^{23}	1			$+\alpha^3$		$+\alpha^5$	(100101)
α^{24}	1				$+\alpha^4$		(100010)
α^{25}		α				$+\alpha^5$	(010001)
α^{26}	1	$+\alpha$	$+\alpha^2$				(111000)
α^{27}		α	$+\alpha^2$	$+\alpha^3$			(011100)
α^{28}			α^2	$+\alpha^3$	$+\alpha^4$		(001110)
α^{29}				α^3	$+\alpha^4$	$+\alpha^5$	(000111)
α^{30}	1	$+\alpha$			$+\alpha^4$	$+\alpha^5$	(110011)

Exp	Polynomial						Binary
α^{31}	1		$+\alpha^2$			$+\alpha^5$	(101001)
α^{32}	1			$+\alpha^3$			(100100)
α^{33}		α			$+\alpha^4$		(010010)
α^{34}			α^2			$+\alpha^5$	(001001)
α^{35}	1	$+\alpha$		$+\alpha^3$			(110100)
α^{36}		α	$+\alpha^2$		$+\alpha^4$		(011010)
α^{37}			α^2	$+\alpha^3$		$+\alpha^5$	(001101)
α^{38}	1	$+\alpha$		$+\alpha^3$	$+\alpha^4$		(110110)
α^{39}		α	$+\alpha^2$		$+\alpha^4$	$+\alpha^5$	(011011)
α^{40}	1	$+\alpha$	$+\alpha^2$	$+\alpha^3$		$+\alpha^5$	(111101)
α^{41}	1		$+\alpha^2$	$+\alpha^3$	$+\alpha^4$		(101110)
α^{42}		α		$+\alpha^3$	$+\alpha^4$	$+\alpha^5$	(010111)
α^{43}	1	$+\alpha$	$+\alpha^2$		$+\alpha^4$	$+\alpha^5$	(111011)
α^{44}	1		$+\alpha^2$	$+\alpha^3$		$+\alpha^5$	(101101)
α^{45}	1			$+\alpha^3$	$+\alpha^4$		(100110)
α^{46}		α			$+\alpha^4$	$+\alpha^5$	(010011)
α^{47}	1	$+\alpha$	$+\alpha^2$			$+\alpha^5$	(111001)
α^{48}	1		$+\alpha^2$	$+\alpha^3$			(101100)
α^{49}		α		$+\alpha^3$	$+\alpha^4$		(010110)
α^{50}			α^2		$+\alpha^4$	$+\alpha^5$	(001011)
α^{51}	1	$+\alpha$		$+\alpha^3$		$+\alpha^5$	(110101)
α^{52}	1		$+\alpha^2$		$+\alpha^4$		(101010)
α^{53}		α		$+\alpha^3$		$+\alpha^5$	(010101)
α^{54}	1	$+\alpha$	$+\alpha^2$		$+\alpha^4$		(111010)
α^{55}		α	$+\alpha^2$	$+\alpha^3$		$+\alpha^5$	(011101)
α^{56}	1	$+\alpha$	$+\alpha^2$	$+\alpha^3$	$+\alpha^4$		(111110)
α^{57}		α	$+\alpha^2$	$+\alpha^3$	$+\alpha^4$	$+\alpha^5$	(011111)
α^{58}	1	$+\alpha$	$+\alpha^2$	$+\alpha^3$	$+\alpha^4$	$+\alpha^5$	(111111)
α^{59}	1		$+\alpha^2$	$+\alpha^3$	$+\alpha^4$	$+\alpha^5$	(101111)
α^{60}	1			$+\alpha^3$	$+\alpha^4$	$+\alpha^5$	(100111)
α^{61}	1				$+\alpha^4$	$+\alpha^5$	(100011)
α^{62}	1					$+\alpha^5$	(100001)

$GF(2^4)$ with $p(\alpha) = 1 + \alpha + \alpha^4$

Exp	Polynomial				Binary
0	0				(0000)
1	1				(1000)
α		α			(0100)
α^2			α^2		(0010)
α^3				α^3	(0001)
α^4	1	$+\alpha$			(1100)
α^5		α	$+\alpha^2$		(0110)
α^6			α^2	$+\alpha^3$	(0011)
α^7	1	$+\alpha$		$+\alpha^3$	(1101)
α^8	1		$+\alpha^2$		(1010)
α^9		α		$+\alpha^3$	(0101)
α^{10}	1	$+\alpha$	$+\alpha^2$		(1110)
α^{11}		α	$+\alpha^2$	$+\alpha^3$	(0111)
α^{12}	1	$+\alpha$	$+\alpha^2$	$+\alpha^3$	(1111)
α^{13}	1		$+\alpha^2$	$+\alpha^3$	(1011)
α^{14}	1			$+\alpha^3$	(1001)

$GF(2^3)$ with $p(\alpha) = 1 + \alpha + \alpha^3$

0	0			(000)
1	1			(100)
α		α		(010)
α^2			α^2	(001)
α^3	1	$+\alpha$		(110)
α^4		α	$+\alpha^2$	(011)
α^5	1	$+\alpha$	$+\alpha^2$	(111)
α^6	1		$+\alpha^2$	(101)