

Review

DSSS : $m(t) \times \underbrace{c(t)}$

↑ spreading code/sequence

One important collection of spreading codes is called the class of **m-sequences**.

Generated w/ LFSR whose connections correspond to primitive polynomial(s).

Important properties

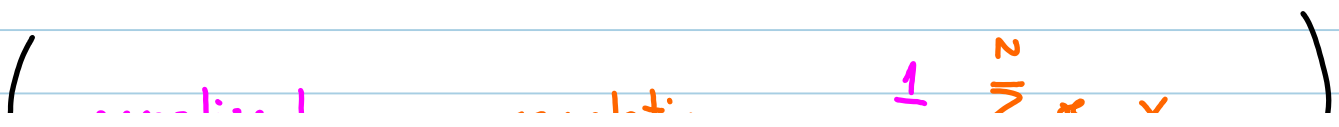
1) maximal length : max. period = $2^r - 1 = N$

2) Imitate properties of Bernoulli trials.

m-sequence → pseudo random
→ pseudo noise

3) Auto correlation

normalized (auto) correlation : $\frac{1}{N} \sum_{i=1}^N \sigma_i x_{i-m}$



normalized cross-correlation: $\frac{1}{N} \sum_{i=1}^N x_i y_{i-m}$

For m-sequence,

	aligned	not aligned
auto-correlation	N	-1
Normalized "	1	$-\frac{1}{N}$