

# From classical to good quantum LDPC codes.

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# Today.

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- Brif Review of Coding.

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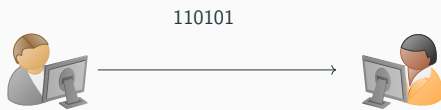
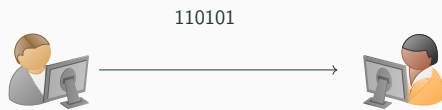
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- Brief Review of Coding. Tanner and Expander codes.
- Quantum Error Correction Codes.

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- Brief Review of Coding. Tanner and Expander codes.
- Quantum Error Correction Codes.
- Good Classical Locally Testable Codes and Good Quantum LDPC.

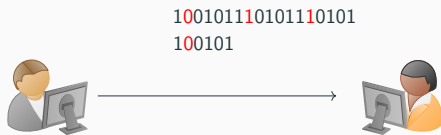
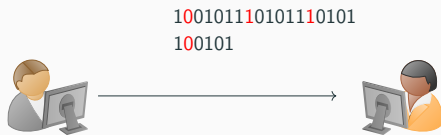
# Classical Vs Quantum Encoding.



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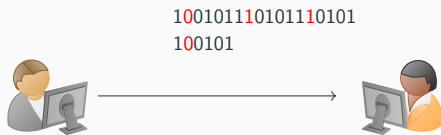
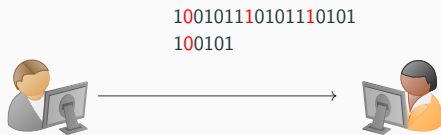


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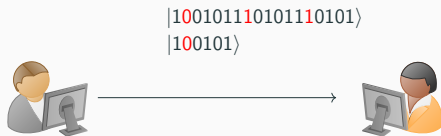
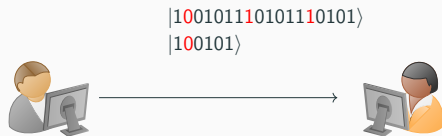




# Classical Vs Quantum Encoding.



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## Good Classical LDPC Code.

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## Idea I - (Uncertainty) Clouds as States.

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## 'Idea II' - Tanner Checks are 'Too Much' Interdependence.

## 'Idea III' - Impossibility of Both $C_X, C_Z$ being Good.

# Quantum Tanner Code Construction.

