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ERROR CORRECTION IN SETI

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An interstellar message, like any type of communication, will have a finite signal-to-noise ratio. In addition to the noise, scintillation and scattering produced by the interstellar medium and the presence of electromagnetic interferences further degrade the quality of the communication link. When the conditions are poor some information may be lost. Therefore, the introduction of some implicit error protection scheme should be embedded in the message. Beyond the simple repetition of the message ad infinitum, there are other ways of beating the noise in the way the signal itself is encoded. Clever coding schemes exist and improve the signal-to-noise ratio at no cost in bandwidth and without prior knowledge from the receiver.