J. Pauly 2009

A bandlimited signal x(t) has been sampled at the Nyquist rate to produce a discrete time signal x[n].

x[n] is then applied to a zero-order hold to produce x_r(t), a reconstruction of the original continuous time signal x(t).

1. Sketch the spectrum of the output X_r(f), assuming you know the input spectrum X(f).

2. Assuming we still want to use a zero-order hold, how can we improve the fidelity of the reconstructed signal?