Exercise 4 of Assignment 3 (due 1/28/08)

Suppose that $\{X_t\}$ is a stationary process with zero mean, acvs $\{s_{\tau,X}\}$ and sdf $S_X(\cdot)$ defined over frequencies $f \in [-1/2, 1/2]$. Let C be a random variable with mean zero and finite nonzero variance σ_C^2. Suppose that C is uncorrelated with X_t for all t. Let $Y_t = X_t + C$, which defines a stationary process with an acvs dictated by the solution to Exercise [2.9]. Determine the integrated spectrum for $\{Y_t\}$.