LET $x_{\text{noise}}[l]$ BE A ZERO MEAN REAL DISCRETE
WHITE NOISE PROCESS.

DETERMINE THE MEAN AND VARIANCE OF
$$\sum_{l=0}^{L-1} x_{\text{noise}}[l] \cos(\omega_m l) \quad \text{when} \quad \omega_m = \frac{2\pi m}{L}$$
SKETCH THE TEMPORAL SPECTRUM / SPATIAL CORRELATION FUNCTION \( S_X(\omega, \Delta t) \) FOR ISOTROPIC NOISE.

SUPPOSE WE HAVE A UNIFORMLY SPACED ARRAY WITH \( \frac{\lambda}{2} \) SPACING. WHAT DOES THE CORR. MATRIX \( S_{\text{noise}} \) LOOK LIKE?
WILL THE MUOK BF EVER REDUCE TO THE CONVENTIONAL BF? IF SO, UNDER WHAT CONDITIONS? IF NOT, SHOW WHY \( w_{\text{muok}} \) IS NEVER EQUAL TO \( w_{\text{cbf}} \).