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Herold G Dehling* (herold.dehling@rub.de), Department of Mathematics, Ruhr-University Bochum, 44791 Bochum, Germany, and **Aeneas Rooch** and **Martin Wendler**. *Two-sample U-statistic processes for long-range dependent data.*

Motivated by some common change-point tests, we investigate the asymptotic distribution of the U-statistic process

$$U_n(t) = \sum_{i=1}^{[nt]} \sum_{j=[nt]+1}^n h(X_i, X_j), \quad 0 \leq t \leq 1,$$

when the underlying data are long-range dependent. We present two approaches, one based on an expansion of the kernel $h(x, y)$ into Hermite polynomials, the other based on an empirical process representation of the U-statistic. Together, the two approaches cover a wide range of kernels, including all kernels commonly used in applications. (Received February 03, 2017)