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Tiberiu Constantinescu and **Nermine El-Sissi*** (nae021000@utdallas.edu), 1515 Rio Grande Dr., apt 616, Plano, TX 75075. *Positive Definite Kernels and Lattice Paths*.

We examine the structure of positive definite kernels on the set of positive integers in terms of operator models. In particular, we introduce two operator models, one of Hessenberg type and the other we call near-tridiagonal. These models produce parametrizations of the kernel. We show their connection with lattice paths of Dyck type and Lukasiewicz type. (Received September 14, 2005)