1059-46-63 **Michael W Frazier*** (frazier@math.utk.edu), Math Department, University of Tennessee, 104 Aconda Court, 1534 Cumberland Ave., Knoxville, TN 37996-0614, and **Igor E Verbitsky**.

Estimates for kernels of Neumann series, from the dyadic to the general case.

We discuss the origin and development of a recent result of Frazier, Nazarov, and Verbitsky, regarding estimates for the kernel of the Neumann series $\sum_{n=0}^{\infty} T^n$ in terms of the kernel K of an integral operator

$$Tf(x) = \int_\Omega K(x,y) f(y)\, d\omega(y)$$

defined on some measure space (Ω, ω). This work began in a paper of Frazier and Verbitsky studying a dyadic model for Schrödinger's equation, where K has the particular form

$$K(x,y) = \sum_{Q\ dyadic} \frac{s_Q}{\omega(Q)} \chi_Q(x)\chi_Q(y),$$

for scalars $\{s_Q\}_Q$. We explain how results in the dyadic case eventually led to general results. We also mention some applications of the general estimates to Schrödinger operators. (Received February 14, 2010)