

1068-35-179

**Gregory C. Verchota\***, Dept. Mathematics, 215 Carnegie Hall, Syracuse, NY 13244. *Linear elliptic operators with constant coefficients require nonconstant coefficient Dirichlet forms for the coercive estimate.*

A linear homogeneous 4th order elliptic differential operator  $L$  with real constant coefficients and a bounded nonsmooth convex domain  $\Omega$  are constructed in  $\mathbb{R}^6$  so that  $L$  has no constant coefficient coercive integro-differential quadratic form over the Sobolev space  $W^{2,2}(\Omega)$ . A nonconstant coefficient coercive form for  $L$  is not known. (Received January 18, 2011)