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Junxia Li* (jx1004@uark.edu), Fayetteville, AR 72701, **John Ryan**, Fayetteville, AR 72701, and **Peter Van Lanker**. *Some Rarita-Schwinger type operators.*

The Rarita-Schwinger operators R_k arise in representation theory of Pin and Spin groups. When $k = 0$ it is the Dirac operator. At the beginning of this work we will study the Rarita-Schwinger operators and construct their fundamental solutions. Next, we will discuss some basic integral formulas related to these operators. We also present Rarita-Schwinger type Laplacians together with their fundamental solutions and Green's formula. The conformal invariance of the first and the second order operators is also established here. This is a joint work with John Ryan and Peter Van Lanker. (Received September 13, 2010)