1092-35-102 **Steve Hofmann**, **Marius Mitrea** and **Andrew J Morris*** (andrew.morris@maths.ox.ac.uk).

*The method of layer potentials in $L^p$ and endpoint spaces for elliptic operators with $L^\infty$ coefficients.*

We consider the layer potentials associated with operators $L = -\mathrm{div} A\nabla$ acting in the upper half-space $\mathbb{R}^{n+1}_+$, $n \geq 2$, where the coefficient matrix $A$ is complex, elliptic, bounded, measurable, and $t$-independent. A "Calderón–Zygmund" theory is developed for the boundedness of the layer potentials under the assumption that solutions of the equation $Lu = 0$ satisfy interior De Giorgi–Nash–Moser type estimates. In particular, we prove that $L^2$ estimates for the layer potentials imply sharp $L^p$ and endpoint space estimates. The method of layer potentials is then used to obtain solvability of boundary value problems. (Received August 02, 2013)