1082-60-60 **David Jerison** and **Lionel Levine***, 310 Malott Hall, Ithaca, NY 14853, and **Scott Sheffield**.
Internal DLA and the Gaussian free field.

Starting with n particles at the origin in the square grid $\mathbb{Z}^2$, let each particle in turn perform simple random walk until reaching an unoccupied site. Lawler, Bramson and Griffeath proved that with high probability the resulting random set of n occupied sites is close to a disk. We prove a central limit theorem for the martingale defined by summing a discrete harmonic polynomial over this random set. A consequence is that space-time averages of its fluctuations from circularity converge in law to a variant of the Gaussian free field. (Received June 17, 2012)