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**Hung Lu\*** (hlu@hpu.edu), 1188 fort Street Mall, Honolulu, HI 96813, and **Michel L. Lapidus** and **Machiel van Frankenhuysen**. *Real and  $p$ -Adic Fractal Strings and Their Complex Dimensions*.

We give an overview of the theory of complex dimensions for real fractal strings. Then we present a geometric aspect of  $p$ -adic fractal strings and their complex dimensions. We obtain an explicit volume formula for the tubular neighborhood of a  $p$ -adic fractal string  $\mathcal{L}_p$ , expressed in terms of the underlying complex dimensions. We also prove that the abscissa of convergence of the geometric zeta function associated to a  $p$ -adic fractal string  $\mathcal{L}_p$  coincides with the Minkowski dimension of  $\mathcal{L}_p$ . The general theory is illustrated by some simple examples, the nonarchimedean Cantor, Euler, and Fibonacci strings.

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