

## The Fourier Basis of $p$ -adic Differentiable Functions

### Résumé

Having emerged from the  $p$ -adic Langlands program,  $C^r$ -functions over a  $p$ -adic number field for a real number  $r \geq 0$  are introduced. Their dual, integrals on  $C^r$ -functions, identifies by evaluation on "Fourier polynomials" (brought about by Lubin-Tate theory) with power series convergent on the open unit disc.