

# Berkovich spaces, the comparison theorem for nearby cycles and applications

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We consider certain analytic spaces for which  $\ell$ -adic Berkovich cohomology makes sense. Using Berkovich's non-Archimedean geometry and comparison theorem for nearby cycles we give a proof for the  $\ell$ -adic integral identity conjecture and the  $\ell$ -adic Thom-Sebastiani theorem.