



Tuesday, 4/4/2017

Time: 12:15 pm  
Physics building  
Lecture room 2.52

## Mathematikon

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### Can an infinite number also be finite?

**Abstract:** We have learned from an early age that given a prime number  $p$  for example the sum  $\sum_{n=0}^{\infty} p^n = 1 + p + p^2 \dots$  is infinite. Still, from a different perspective  $\sum_{n=0}^{\infty} p^{-n}$  is an “integer” of “norm” one. Moreover,  $\frac{1}{p^n}$ , for  $n > 0$  big enough, is also a “big” number.

These phenomena appear in a field that is very different from  $\mathbb{R}$  and  $\mathbb{C}$ —the field  $\mathbb{Q}_p$  of  $p$ -adic numbers. The aim of the talk is to define  $\mathbb{Q}_p$ , understand its main properties, and then state more advanced questions that can be considered.

