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**An excursion into the  $p$ -adic world. (Ein Ausflug in die  $p$ -adische Welt.)**

Wendland, Katrin (ed.) et al., Facettenreiche Mathematik. Einblicke in die moderne mathematische Forschung für alle, die mehr von Mathematik verstehen wollen. Wiesbaden: Vieweg+Teubner (ISBN 978-3-8348-1414-2/pbk; 978-3-8348-8173-1). Mathematik Populär, 433-451 (2011).

This article provides readers with a brief introduction to topics covered in *J.-P. Serre's* book [Trees. Springer Monographs in Mathematics. Berlin: Springer. (2003; Zbl 1013.20001)]. It begins by explaining  $p$ -adic absolute values,  $p$ -adic lattices  $L$  in the plane, the action of  $\mathrm{GL}_2(\mathbb{Q})$  on these lattices, and equivalence classes of lattices with respect homothety. By defining when two lattices are “neighbors” one is led to the definition of a graph whose vertices are (equivalence classes of) lattices, which are connected by an edge if they are neighbors of each other. The main result is that these graphs  $X(p)$  are trees, and that it is possible to study the group  $\mathrm{SL}_2(\mathbb{Q})$  by investigating its action on this tree. *Franz Lemmermeyer (Jagstzell)*

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