1014-01-733   **Jeanine Daems*** (`jdaems@math.leidenuniv.nl`), Mathematical Institute, Leiden University, P.O. Box 9512, 2300 RA, Leiden, Netherlands. *Mathematical crystallography after Hilbert's 18th problem.* Preliminary report.

In 1910 Bieberbach solved the first part of Hilbert's 18th problem by showing that in each dimension there is only a finite number of crystallographic groups. In this talk, I will briefly discuss his proof and compare it to the standard modern proof of the same theorem. Also, I will go into some of the later developments in 20th century mathematical crystallography. (Received September 23, 2005)