

1136-52-382

Henry Cohn* (cohn@microsoft.com). *Why are packing problems much easier in some cases than others?*

One might expect that the difficulty of solving a packing problem would simply depend on the size and complexity of the problem: higher dimensions or more complicated shapes would increase the difficulty. Instead, the difficulty is far more subtle to predict. For example, Viazovska's solution of the sphere packing problem in eight dimensions is enormously simpler than Hales's solution in three dimensions, and several dozen similar cases can be found in the literature. How can we understand why such phenomena occur? Sadly, I can't give a definitive answer to this question, but in this talk I'll discuss what I understand and what I wish I understood. (Received January 20, 2018)