1107-37-403   **Vitaly Bergelson** (`vitaly@math.ohio-state.edu`) and **Joel Moreira***
(`moreira@math.ohio-state.edu`). *On $\{x + y, xy\}$ patterns in large sets of infinite fields.*

An old and fundamental open question in combinatorial number theory asks whether, for an arbitrary finite partition $\mathbb{N} = C_1 \cup \cdots \cup C_r$ of the natural numbers, there exist $x, y \in \mathbb{N}$ whose sum $x + y$ and product xy both belong to the same C_i. In a recent joint work with Vitaly Bergelson we answer an analogue of this question in infinite fields, using ergodic theory methods pioneered by Furstenberg. (Received January 19, 2015)