1145-35-371 **Alexander Pankov***, Department of Mathematics, Morgan State University, E Cold Spring Ln, Baltimore, MD 21251. *Traveling waves in Fermi-Pasta-Ulam lattices with non-local interaction.*

The talk is devoted to traveling waves in FPU type particle chains assuming that each particle interacts with several neighbors on both sides. Making use of variational techniques, we prove that under natural assumptions there exist monotone traveling waves with periodic velocity profile (periodic waves) as well as waves with localized velocity profile (solitary waves). In fact, we obtain periodic waves by means of a suitable version of the Mountain Pass Theorem. Then we get solitary waves in the long wave length limit. (Received September 04, 2018)