1108-51-404 **J.-F. Lafont*** (jlafont@math.ohio-state.edu), Dept. of Mathematics, Ohio State University, 231 West 18th Avenue, Columbus, OH 43210-1174, and **D. B. McReynolds** (dmcreyno@purdue.edu), Purdue University, Department of Mathematics, 150 North University, Math 704, West Lafayette, IN 47907-2067. *Primitive geodesic lengths and (almost) arithmetic progressions.*

We are interested in looking for arithmetic progressions in the primitive length spectrum of a negatively (or non-positively) curved manifold. The primitive length spectrum is the (multi)-set of lengths of primitive closed geodesics. We first show that generically, the primitive length spectrum does not contain any arithmetic progressions. We show that they always contain almost arithmetic progressions. We also show that all non-compact arithmetic hyperbolic 2- or 3-manifolds have primitive length spectrums which contain arbitrarily long arithmetic progressions. This is joint work with Ben McReynolds (Purdue). (Received January 19, 2015)