1038-37-341   **Roman Muchnik*** (`rmuchnik@gmail.com`), Bronx, NY 10463. *Irreducibility of boundary representation of hyperbolic group.*

I will explain some ideas behind the proof of irreducibility of boundary representations for fundamental groups of compact negatively curved manifold. I will describe some analytical ideas involved in the course of the proof, and in particular our construction of averaging operators. These operators allows to show that 2 representations are equivalent if and only if the corresponding marked length spectra are proportional. This is a joint work with Uri Bader. (Received February 12, 2008)