

A dynamical system is called *rigid* if a weak form of equivalence with a nearby system, such as coincidence of some simple invariants, implies a strong form of equivalence. In this mini-course we will discuss smooth rigidity of hyperbolic dynamical systems and related geometric questions such as marked length spectrum rigidity of negatively curved manifolds. We will consider the following moduli: lengths of periodic orbits, spectra of Poincaré return maps of the periodic orbits, volume Lyapunov exponents. After a brief overview of some classical results we will focus on recent developments in rigidity of Anosov and partially hyperbolic systems as well as connections to geometric rigidity. The latter is based on joint work with B. Kalinin and V. Sadovskaya and with F. Rodriguez Hertz.