

GPS telemetry is a recently expanding method for research on most animal species. It provides automatic scanning of position and related data on large distances and often on large temporal scale. The research studies has changed dramatically during the development of this method. Experiments using this technology deal with scanning of incidence, management and species conservation, activity pattern of controlled animals, estimation of behavior in various scales and so on. Activity sensors which are often included to GPS collars serve for determination of behavior of monitored species. In this thesis there are summarized basics of VHF and GPS technology. In available articles of great terrestrial mammals like even-toed ungulates (Artiodactyla) and marginally also bears (Ursidae) we show possible application of GPS technology for activity measurement, methods, restrictions and results of experiments. At the end we introduce experimental approach for activity measurement of red deer (*Cervus elaphus*) and results of the pilot study.