1147-57-119 **Kenta Hayano***, 3-14-1, Kohoku-ku, Hiyoshi, Yokohama, Kanagawa 2238522, Japan. *Stability of non-proper functions.*

In this talk, we will give a sufficient condition for (strong) stability of non-proper smooth functions (with respect to the Whitney C^∞–topology). We introduce the notion of end-triviality of smooth mappings, which concerns behavior of mappings around the ends of the source manifolds, and show that a Morse function is stable if it is end-trivial at any point in its discriminant. We further show that a Morse function $f : N \to \mathbb{R}$ is strongly stable (i.e. there exists a continuous mapping $g \mapsto (\Phi_g, \phi_g) \in \mathrm{Diff}(N) \times \mathrm{Diff}(\mathbb{R})$ such that $\phi_g \circ g \circ \Phi_g = f$ for any g close to f) if (and only if) f is quasi-proper. This result yields existence of a strongly stable but not infinitesimally stable function. If time permits, we will also mention an application of our result to stability of Nash functions on $\mathbb{R}^n$. (Received December 25, 2018)