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Dmytro M Savchuk* (dsavchuk@math.binghamton.edu), Department of Mathematical Sciences, Binghamton University, Binghamton, NY 13902. *Schreier graphs and Schreier dynamical system of the action of Thompson's group F on the Cantor set.*

We construct Schreier graphs of the actions of Thompson's group F on the orbits of all points of the Cantor set with respect to the standard generating set x_0, x_1 , classify them up to isomorphism, and study the corresponding Schreier dynamical system. Schreier dynamical systems were studied in the context of ergodic theory by Zimmer, Vershik and Grigorchuk. Sometimes it is possible to show that given an action of a group on a set, the Schreier dynamical system constructed from just one orbit, can recover the original action of the group on the whole set. We show that this is exactly the case for the action of F on the Cantor set. Finally, we show that all constructed Schreier graphs are amenable. (Received September 21, 2011)