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Clayton Petsche* (cpetsche@gc.cuny.edu), Mathematics Ph.D. Program, CUNY Graduate Center, 365 Fifth Avenue, New York, NY 10016-4309. *S-Integral Preperiodic Points for Dynamical Systems over Number Fields.*

Given a rational map $\phi : \mathbb{P}^1 \rightarrow \mathbb{P}^1$ defined over a number field K , we prove a finiteness result for ϕ -preperiodic points which are S -integral with respect to a non-preperiodic point P , provided P satisfies a certain local condition at each place. This verifies a special case of a conjecture of S. Ih. (Received September 19, 2007)