**MR3480704 (Review)** 14J27 14E07 14J50
**Grivaux, Julien** (F-AMU-IM)
**Parabolic automorphisms of projective surfaces (after M. H. Gizatullin). (English summary)**
*Mosc. Math. J.* **16** (2016), *no. 2,* 275–298.

This is an expository paper on work of M. K. Gizatullin [Izv. Akad. Nauk SSSR Ser. Mat. **44** (1980), no. 1, 110–144, 239; MR0563788]. Given an automorphism $f$ of a projective complex surface $X$, there is an induced action $f^*$ on $\mathrm{NS}(X)\otimes\mathbb{R}$, where $\mathrm{NS}(X)$ is the Neron-Severi group of $X$. The automorphism $f$ is said to be parabolic if $\|(f^*)^n\|$ has quadratic growth in $n$ and elliptic if $\|(f^*)^n\|$ is bounded. The main result is that if $G$ is an infinite subgroup of $\mathrm{Aut}(X)$ containing only elliptic and parabolic elements, then there is a unique $G$-invariant elliptic fibration on $X$. The most involved cases are when the surface $X$ is rational; here Halphen surfaces are the principal players.

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*Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.*