Kopejko, V. I.
On the structure of special linear groups over Laurent polynomial rings.  (Russian. English summary) Zbl 0867.20036

Summary: We prove the following result. Let \( C \) be a regular ring such that \( \text{SK}_1(C) = 0 \). Then the groups \( \text{SL}_r(C[[T_1, \ldots, T_m]][[X_1^{\pm 1}, \ldots, X_n^{\pm 1}, Y_1, \ldots, Y_s]]) \) are generated by elementary matrices for all integers \( r \geq \max(3, \dim C + 2) \).

MSC:

\begin{align*}
20G35 & \text{ Linear algebraic groups over adeles and other rings and schemes} \\
20F05 & \text{ Generators, relations, and presentations of groups} \\
16W60 & \text{ Valuations, completions, formal power series and related constructions} \\
& \quad \text{ (associative rings and algebras)} \\
19B28 & \text{ } K_1 \text{ of group rings and orders}
\end{align*}

Keywords:
special linear groups over Laurent polynomial rings; regular rings; groups generated by elementary matrices