Abstract
Applying the Sarlet-Bahar method one obtains the invariant of equations of motion of the type $\omega^2(\tau)\rho/2 = \alpha(t)F(\beta(t)\rho)$. The corresponding auxiliary equation for the Ermakov system is also obtained, and the results obtained by other authors are generalized.

Keywords
Ermakov systems, Noether symmetries, Ermakov invariants, constants of motion