The propagation of ion-acoustic solitary waves in inhomogeneous magnetized plasma is investigated analytically. The fluid equations for ions have been treated by reductive perturbation analysis technique. In this formulation process we have used a space–time stretched coordinate. The system of equations has been reduced to a modified Korteweg–de–Vries (mKdV) equation. The soliton solutions are found to be affected by inhomogeneity and magnetic field. The effective conditions for soliton propagation in inhomogeneous magnetized plasma are analysed.

**Keywords**: Ion–acoustic solitons, inhomogeneous plasma, mKdV equation, magnetic field, electron density.

**References**: