1131-35-172   **Akif Ibragimov*** (`akif.ibraguimov@ttu.edu`) and **Vakhtang Purkadze**. *Asymptotic stability of the system of two sin-Gordon type equations.*

Time-infinity behavior of generalized system of sin-Gordon equations bounded domain for mixed boundary value boundary condition is investigated. System which model coupled pendulums class processes with diffusion has a form:

$$u_{tt} - \nabla \cdot D\nabla u + a \sin u = -A(u_t - v_t)$$

$$\epsilon(v_{tt} - \nabla \cdot D\nabla v + a \sin v) = -A(v_t - u_t)$$

For this system under some boundary condition Lyapounov type functional was constructed, and it was shown that for some constrain on initial Data this functional exponentially decay. For scalar equation similar problem studied by R.W. Dickey,(see SIAM, Vol.30,N0.2,pp 248-262.) (Received July 13, 2017)