1163-37-142Michail E Filippakis\* (mfilip@unipi.gr), University of Piraeus, Department of Digital<br/>Systems, Piraeus, Greece, 18534 Piraeus, Greece, and Maria eleni Poulou. Global Attractor for a<br/>stochastic System of Klein - Gordon - Schrödinger Type.

Let us consider the Cauchyproblem of acoupled system of a Schrödinger equation with fractionalLaplacian and fractional Klein Gordon equation of different order through Yukawa coupling.

$$idu + (\kappa(-\Delta)^a u + i\alpha u - uv)dt = fdt + \sum_{j=1}^m \phi_j d\omega_j,$$

$$dv_t - ((-\Delta)^b v + v + \lambda v_t + Reu_x)dt = gdt + \sum_{j=1}^m \phi_j d\omega_j.$$
(1)

where  $a, b \in (1/2, 1)$  and the functions  $\{\phi_j\}_{j=1}^m \in H^2(\mathbb{R}) \cap W^{2,p}(\mathbb{R})$  for some p > 1 and  $\{\omega_j\}_{j=1}^m$  are independent twosided realvalued Wiener processes on a complete probability space. So the intoduction of the disspative mechanisms are necessary to force the energy to decay to zero when t goes to infinity. Our aim is to prove with the help of the a priori estimates the existence and uniqueness of a solution of the stochatic fractional system as well as the existence of a global attractor.

The authors would like to thank the "Bioinformatics-Computational Biology" Master's Programm at the Department ob Biology of the Kapodistrian University of Athens for generous support.

(Received August 21, 2020)