

I will have a general review of the recent works by my hadron physics group emphasizing on the recent experimental and theoretical progresses made on the spectroscopy and decay properties of the standard and non-conventional (exotic) hadrons in vacuum. I will discuss how we could develop one of the applicable and powerful Mathematica based codes in hadron physics in the world !!!!, which enables us to have an immediate reaction to the new particle discoveries to fix their quantum numbers, predict their physical properties and give them an “identity card”. I will address some of our new predictions that may be in agenda of different experiments like LHCb and Belle in near future, as well. I will continue with talking about the properties of hadrons at hot and dense medium, which are useful to get knowledge on the properties of matter under extreme conditions, analyze the results of heavy ion collision experiments and understand the structure of the dense astrophysical objects like neutron stars. I will also mention the recent significant deviations of the experimental data from the SM predictions on some semileptonic decays of hadrons, which may be considered as serious indications of new physics effects. By giving some examples of the electromagnetic, weak and strong decays of hadrons I will talk about the electromagnetic form factors of nucleons and their geometric shapes. Finally, I will briefly discuss our ongoing study on the properties of the recently proposed "S-Sexaquark" that may be a serious dark matter candidate and will have a look at one of our studies on QCD nature of dark energy.