UNIVERSITY OF DELAWARE

DEPARTMENT OF PHYSICS AND ASTRONOMY

University of Delaware
Newark, Delaware 19716-2570
Ph: 302/831-2661
Fax: 302/831-1637

To Whom It May Concern,

I am writing in support of Shabbar Raza who has applied for a postdoctoral position at your institution. I am pleased to recommend him to you very highly as I believe that he is a one of the talented young physicists. He will prove to be an excellent contributor at your institution.

I have known Shabbar since 2007. So, I had many opportunities to discuss various topics in high energy physics with him. As the result of our collaboration 6 papers was published in the various scientific journals. During our collaborations he demonstrated great intelligence, a desire to understand problems as deeply as possible and a strong enthusiasm for research. Outcome of his hard working is very impressive. He already published 8 papers and I know he is finalizing 2 more papers. Just this statistics shows how hard working he is. Overall 10 paper for PhD thesis is not very common in our field.

Shabbar already has good experience to work on various topics in particle physics (supersymmetry, dark marre, LHC phenomenology etc.). Our collaboration was focused on sparticle spectroscopy which are related to the different underline grand unify theory (GUT). In one of our work, collaboration with R. Khalid and Q. Shafi and published in JHEP 1012, 055 (2010), we shown that t-b-tau Yukawa unification condition at GUT scale, which is motivated one of the most popular GUT based of SO(10), E_6 gauge symmetry, gives very specific particle spectrum which will be tested very soon at LHC. We also study how given particle spectrum can be tested at the direct and indirect dark matter detection experiment. In the another project collaboration with Q. Shafi (JHEP 1203, 054 (2012)) we investigate the possible GUT structure which can have sbotton quark as next to lightest supersimmetric particle (LSP) in the low scale spectrum. As we know last thirty years supersymmetry is one of the most popular scenario beyond the SM physics and there are many models which gives different LSP which can be used to adjust correct relic abundance in the theory. Despite many attempt our scenario is first fully realistic model which gives sbottom LSP and this way generate relic abundances compatible to the WMAP current observations. Shabbar made fundamental contributions to these projects and strong enthusiasm to complete project as deep as possible.

Let me also say a few words about Shabbar's personality. He is well-liked by his peers and has many close friends among the physics graduate students (and I am sure that circle extend well outside the UD). Shabbar is also well known and well liked by the physics faculty who had interacted with him in class. In short, Shabbar seems capable of applying himself to a wide range of topics and will be able to jump into research from the moment he first arrives. I strongly recommend Shabbar to you!.

Yours sincerely,

I. G

Ilia Gogoladze