

	<b>ΠΑΝΕΠΙΣΤΗΜΙΟ ΙΩΑΝΝΙΝΩΝ UNIVERSITY OF IOANNINA</b>		TELEFON: 26510-08502
	ΤΜΗΜΑ ΦΥΣΙΚΗΣ	PHYSICS DEPARTMENT	26510-92088
	<b>ΤΟΜΕΑΣ ΘΕΩΡΗΤΙΚΗΣ ΦΥΣΙΚΗΣ THEORETICAL PHYSICS DIVISION</b>		Fax: 26510 08698&08683
	TAX. ΘΥΡΙΔΑ 1186	P.O. BOX 1186	Email: <a href="mailto:vergados@uoi.gr">vergados@uoi.gr</a>
	451 10 ΙΩΑΝΝΙΝΑ	IOANNINA, GR. 451 10	
	ΕΛΛΑΔΑ	GREECE	

Ioannina Dec. 1, 2012

Dear Sir/Madam,

I am writing this letter of recommendation for Dr Mirco Cannoni, who has applied to your group for a post doctoral position.

I know Mirco quite well, since both of us belong to MultiDark, a Spanish Project supported by the Ministry of Science and Innovation, since 2009. Furthermore I have been collaborating with the Huelva group for a number of years. Our joined research and the resulting publications have mainly been on obtaining theoretical rates, in the context of various particle models, in particular Supersymmetry, relevant for direct dark matter searches. It was mainly due to Mirco's ideas and technical skills the very nice result we have obtained (Phys. Rev. D83: 075010, (2011)), namely demonstrating that, given enough experimental information in a variety of odd mass targets, one may be able to extract from the data all three particle parameters (essentially nucleon cross sections) involved, i.e. one spin independent and two spin dependent contributions (the proton and the neutron). I should stress that up to that point the experiments were analyzed in terms of only one contribution assumed to be dominant, based only on target considerations. We have also examined the possibility of indirect dark matter detection signals originating from dense objects (black holes, neutron stars, etc). In particular we examined the interesting features of the gamma-gamma spectrum originating from the s-tau decay of neutralinos in black holes (Phys. Rev. D 85, 115015 (2012)).

Furthermore in a nice paper by himself alone (Phys. Rev. D 84, 095017 (2011)), among other things, he clarified common misconceptions among particle theorists and experimentalists in the field of direct dark matter searches regarding the role played by the various spin structure functions. He has also been one of the authors of a recent paper (Phys. Rev. D86 (2012) 037702) in which it is shown that results of same sign dilepton searches at the LHC can be used to provide useful constraints on the SUSY parameter space in the ( $m_{1/2}$ ,  $\tan \beta$ ) plane.

In addition to evaluating rates relevant for dark matter searches that I am most familiar with, he has made contributions in indirect dark

matter searches involving Cherenkov telescopes in collaboration with astrophysicists (arXiv:1104.3530 [astro-ph.HE], which has been accepted to appear in JCAP). Finally I should mention that he is familiar with the main issues involved in lepton flavor violating processes and, in fact, he is currently working on such projects not only with the Huelva team, but in close collaboration with the group of John Ellis at CERN as well.

In conclusion I affirm that Mirco Cannoni has a good understanding of physics. He has original ideas and the necessary determination and technical ability to apply them in interesting problems. I believe he can effectively work in any area of particle physics phenomenology and model building. He has a nice and pleasant personality. He is easy to get along and collaborate with. He can actively participate in groups involving both theorists and experimentalists in the areas of particle physics and astrophysics.

I, therefore, recommend him without reservation.

If you need any further information do not hesitate to contact me.

Sincerely yours,

J.D. Vergados

Professor of Physics.