



UvA-DARE (Digital Academic Repository)

Magnetotransport studies of the single and bilayer two dimensional electron gas in the quantum Hall regime

Galistu, G.M.

Publication date
2010

[Link to publication](#)

Citation for published version (APA):

Galistu, G. M. (2010). *Magnetotransport studies of the single and bilayer two dimensional electron gas in the quantum Hall regime*.

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

Acknowledgements

Even though I believe that happy endings are rare in this life, the fact that I am writing these acknowledgements right now convinces me that once in a while they do occur. I would like to use these final pages to express my gratitude to the people that contributed to the completion of this thesis.

First I would like to express my gratitude to my co-promotor and supervisor Dr. Anne de Visser. Thank you for introducing me into the surreal world of experimental low temperature physics. Thank you for your efforts to instill into me the right attitude of an experimentalist, for your daily guidance and support and not in the least, for patiently checking and correcting this manuscript. Likewise I would like to thank my promotor Prof. Aad Pruisken, the inspired theoretician. Thank you for being a guide to us experimentalists, for your very useful suggestions on how to do data-analysis, and as member of the inner core from the very beginning, for elaborating to me what it took over the years to reach the latest understanding of scaling within the quantum Hall effect. Even though my field of research will change now from 2-dimensional to 3-dimensional systems, which in addition, are also breathing (hopefully!), I am sure I will take the luggage you both gave to me into my future life.

Then there are my senior *quantum Hall* colleagues. Leonid, next to being a friend you were also like an older brother to me, always keeping a watchful eye on the youngest sibling of the quantum Hall group. Dennis, even though it was a very busy period for you when I joined the group, you still took plenty of time to explain complicated concepts to me and were always available for advice. Thank you so much. This is not to forget my *non quantum Hall* group members. Huy, I really appreciated your friendship during the last years. Many memories... the two of us building up the labs...having fun during summer school in Switzerland...you were always disposed to help, to listen, to share ... I have to keep my promise and come to visit you in Vietnam. And then there is Alessia, this other one of a kind. Thank you Ale for assisting me in the lab, sometimes even in the weekend and also for occasionally correcting my use of Italian language (and eating habits). Meena

and Erik also a kind word for you. I feel that you are all special people that gave color to this journey called Ph.D.

An important part of the work in this thesis could not have been done without the help of our colleagues from Eindhoven. Many thanks to Paul Koenraad, P.Nouwens and H. Kunzel from the Technical University of Eindhoven for assisting us and providing useful samples to us. Thanks to Ulrich Zeitler for his support during the experiments in the HMFL in Nijmegen.

The work presented in the last two chapters of this thesis has been done in collaboration with Vladimir Kulbachinskii from the Moscow State University and Michael Yakunin from the Institute of Metal Physics in Ekaterinburg, Russia. Thank you for sharing your knowledge and expertise with me. I really enjoyed working together with you. Also I would like to mention Ivan Vasilievsky from the Moscow State University for his efforts and advice in analyzing the data obtained in Amsterdam.

Where would we researchers be without the people from the mechanical and electronic workshop and all the others assisting research and other matters going on in the WZI. In particular Ben 'labview' Harrison, Frans Pinkse, Joost Overtoom, Wietze Buster, Harry Beukers, Johan te Winkel, Bert Zwart, Hans Agema, Theo van Lieshout, Piet Sannes, Ton Gortemulder, Rene Rik, Luuk Lusink, Dirk de Vries, Ineke Baas, Mariet Bos, Rita Vinig and all the others thank you so much! You are some of the friendliest people I have met during my stay in Amsterdam.

Special thanks to Mark Golden for caring about the smaller issues going on outside his own group. It is my humble opinion that you have set some standards on how a good director should be. Thanks to the other staff members for the interesting discussions and support. Jeroen Goedkoop, Gerard Wegdam, Jacques Klaasse, Ekkes Bruck and Rudolf Sprik.

Also I want to mention my other colleagues in the WZI and some from the ITFA that contributed to a pleasant time in the WZI. Tracy, Stan, Iman, Jorge, Tegusi, Lian, Henk, Duc, Nacho, Anton, Freek, Sanne, Cam Tanh, Salima, Abdel, Asmae, Mounir, Antje, Phil, Antina and Vijay, thank you for your kindness, Nazly, Oleg, Ha, Abdullaye, Rijn, Jesse, Sara, Wing Kiu, Vinh, Mark K., Salvo, Richard, Sasha, Xerxes, Bahar, Ingmar, Gerardo, Pasquale, Michele, Mark A. and all the other colleagues and friends that in the tunnel-like

focusing of my mind caused by writing this thesis I forgot to mention here.

Beyond what I can express by the written word is the gratitude that I have for my parents, for their unconditional love and encouragement. *Cari papa e mama, non ho parole per ringraziarvi, vi voglio tanto bene.* Also I want to mention my brother Tore, my future sister in law Carol, my uncles and aunts, especially zia Angela and zio Mario, cousins and the rest of my family. I hope this booklet will bring a smile on your faces.