

report funding application 052

visit from Dr J. M Geremia (Caltech) to Heidelberg to give a series of lectures over one week to graduate students.

Dr. GM Geremia came to Heidelberg in October 2003 to discuss and collaborate on control theory for classical and quantum applications with the focus on QIPC. He gave a series of 10 lectures 60 min each on subjects starting from a broad introduction to classical control theory to special experiments studying quantum control of atomic spin systems. The lectures were attended by about 25 master - and PhD-students and postdocs from Heidelberg and other universities close by. GM Geremia provided a script for his lectures which will be made available on our web page (www.atomchip.org)

Besides the lectures we had many detailed discussions on how to implement quantum control for control of small atomic ensembles and single atoms in atom chip QIPC experiments. The visit was very stimulating and successful. It gave on one hand a well founded lecture series as an introduction to the subject, and in addition many new problems could be discussed.

In fact, as a result of the visit we implemented some of the control techniques in our experiments, which made them much more stable, and we are working to implement quantum control of small BEC's on our chips, as a way to prepare for qu-bit manipulation