XIAOYUN YANG

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Education: Master's degree in Physics, Georgia Institute of Technology 2012-2014
Bachelor of Science, Nankai University 2008-2012

Employment:

Research Assistant, School of Physics Georgia Institute of Technology 2014-2015
Teaching Assistant, School of Physics Georgia Institute of Technology 2012-2014

Mathematical Courses:

Linear algebra and group theory: Matrix algorithm and crystal structure representation.
Computational physics: Computational solution for differential equation, algorithm inc-
-luding interpolation method and Runge-kutta method.
Probability theory: Stochastic process, Gaussian and Poisson distribution, Bayesian stat-
-istics, Linear regression.
Thermodynamics and statistical mechanics: Boltzmann and Maxwell distribution, Brow-
-nian motion, Quantum statistics.

Data Analysis Experience:

Graphene ribbon growth condition analysis which results in clean graphene ribbon growth;
Raman spectrum analysis including separating the small Raman signal from the huge b-
-ackground for which different noise sources and equipment defects are identified and co-
-rrected;
Raman spectrum decomposition using NMF(nonnegative matrix factorization) algorithm;
Data collection, analysis and plotting for different spin components of the Bose Einstein Condensates;

Software Experience:

Matlab: For nonlinear beam propagation simulation; For Raman data analysis including p-
-eak fit and NMF algorithm;
Mathematica & Microsoft Excel: For Bose Einstein Condensate data analysis and plot;
Python: One semester teaching experience with Python;
C++: One year undergraduate course on C++ language;
R: Enrolled in the R Programming and Practical Machine Learning course provided by Jo-
-hns Hopkins University.
Unix Environment: Familiar.