Hybrid Systems for N-body Simulations

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It is with some degree of concern that I begin to write these acknowledgments, since I'm aware of the fact that this will be the first (and maybe the only) part of this dissertation that people will read. For this reason, I was tempted to put the entire text of the thesis under this section. This would have allowed me to break the world record for the longest acknowledgments ever, but it would have also induced the opposite effect, i.e., decreasing dramatically the number of my readers. Anyway, let's stop beating about the bush (sooner or later, it comes time for bushes to be beaten), and come to the point.

First of all, I'd like to thank Peter Sloot, my supervisor, for involving me in an exciting research field, at the crossroads of Algorithmics, Astrophysics, and Computer Science. The direction taken by my research owes much to his supervision. I'm also grateful to him for having involved me in teaching and refereeing activities. It was very stimulating and instructive to be an assistant in various courses, and also to serve as a referee for scientific journals and conferences where Peter occupies a steering role.

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I spent most of the last year and a half of my Ph.D. working with Simon Portegies Zwart. It has been a very enjoyable and fruitful collaboration, which resulted in the work presented in chapter 5 of this thesis. His enthusiasm and exuberance has always made it a pleasure to work with him; his inexhaustible energy has made it almost an ordeal! I also enjoyed helping him with the Stochastic Simulation 2003 course; our challenge of solving the Travelling Salesman Problem faster is still open. I'm sure my treecode solver will beat his Monte-Carlo one!

I gratefully acknowledge Ed van den Heuvel for having provided the funding that supported the last six months of my Ph.D.

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my co-authors for granting me permission to include material from our joint papers in this thesis.

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A dissertation is a place where scientific results of a Ph.D. are collected, hence emotional feelings are better kept out of it. My gratitude for the friendship and availability that my colleagues of the SCS group, the Institute for Informatics, the secretariat personnel, and my friends in Amsterdam and elsewhere showed me won't be acknowledged here, but personally to each of them.

Since I graduated in 1995 in Palermo, I stayed in different places around Europe, met
many interesting people, and got in touch with different cultures. Man’s real home is not a house, but the Road, and life itself is a journey to be walked on foot, said Chatwin, and this could also be my motto. Meeting my travel mate for this journey was the greatest achievement of my stay in Amsterdam.

Piero Spinnato

Trento, 5th August 2003

PS The cover image is inspired by Phaedrus’ De vulpe et uva:

Fame coacta vulpes alta in vinea
Uvam appetebat summis saliens viribus;
Quam tangere ut non potuit, discedens ait:
‘Nondum matura est; nolo acerbam sumere’.
Qui, facere quae non possunt verbis elevant,
Adscribere hoc deebunt exemplum sibi.

Guessing the metaphor that connects the above fable to this thesis is left as an exercise to the reader.