

University of Groningen

## OmegaCAM and gravitational lensing

Christen, Fabrice Frédéric Thiébaud

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# Acknowledgment

*P* fffffffuuuuu! What a ride! If you would have asked me the day I said to Konrad (my supervisor and responsible person for everything that happened to me the last six years), “I jump in a plane to come, there is no problem (I was living in Reunion Island at that time), heu..., just tell me where do I have to go?...” , I would not have bet on my success. He did! And I think he won! The best prove is my PhD book that you have right now in your hands. A PhD yes, in astronomy and instrumentation, that is why I came for. A project for which I would work initially on a professional CCD camera and afterwards I would do a scientific research. What a dream! Particularly for a young guy like me who, at that time, was fighting together with Thierry P. (my best friend), to build a CCD camera around the  $144 \times 208$  pixels TH7852 Thomson chip. One day, Thierry P. forwarded me the e-mail of Cyril Cavadore (he became one of my CCD mentors and was responsible of the CCD characterization at ESO when he sent the e-mail) explaining that a position was open for a young motivated physicist to work on the OmegaCAM project two years at ESO and afterwards to join the Kapteyn Institute to participate in a scientific project,... I grabbed this opportunity!

Yes but unfortunately everything has an end and this adventure too. I had great time, met very interesting people, and, in bonus, I have improved (or should I say, learnt) English. If you would have known me before I started working in Germany, I can tell you, you would be surprised today to hear me “pronouncing” English words.

I would not have reached the end of this journey without the help and support of a lot of persons. It is time for me to thank them all. First, I would like to thank my supervisors, Konrad Kuijken, who, together with Edwin Valentijn, selected me when I came in Groningen for the interview. Konrad, thank you for these years of supervision, guidance and being here when when I needed help. You have all my gratitude. As for you Edwin, thank you very much for your assistance and for the extra support you gave me at the end of the thesis. The defense of my thesis would have been extremely problematic if you did not intercede.

Now I will follow the chronology to be sure that I will forget nobody. This adventure has started in Reunion Island, when Thierry P. received an e-mail which has changed the course of my life. You have a large part of responsibilities Thierry, you know that? *Merci vieux pour ce que tu as fait quand j'étais à la Réunion mais aussi pour ton aide quand j'en avais besoin. Un peu plus de personne sur qui l'on puisse vraiment compter comme toi, et ce monde serait meilleur, j'en suis sûre! Mais j'y pense, Thierry n'est pas le seul à blamer dans cette histoire, il y a aussi le club de l'ARECA! Si cette équipe d'astronome amateurs*

motivée n'avait pas organisé une soirée d'observation sur le campus de l'Université de la Réunion lors d'une journée "Science en fête" en 1997, je ne serais peut être pas ici aujourd'hui. Gérard H., Thierry B., Patrice M., Thierry P., Daniel P., Elodie P., Thierry P. dit "Le Grand", le noyau dur de l'ARECA à l'époque où je la fréquentais assidûment, merci pour tous ces vendredis soirs que j'ai passés en votre compagnie à observer les étoiles (et les nuages aussi) tout en sirotant dans la bonne humeur un schweppes-jus d'orange glacé. Aaaaah ca me manque tout ca! Je salue aussi les nouveaux venus, Jacky, Bernard, Philippe, Emmanuel entre autres que je ne connais hélas qu'aux travers de courriels et photos et qui perpétuent les traditions aréciennes tout en animant de façon fort sympathique la liste web que nous partageons.

After a long travel from Reunion Island, I arrived in Garching. The first person I met at the European Southern Observatory was the very smily secretary of the Optical Detector Team (ODT), Jane Eskdale, who introduced me to the other members of the group. It is nice to find such a person after a long journey. Later she was always there to help me for any kind of problems, thank you Jane. I got a very pleasant welcome from the ODT team and my stay there has been productive and very instructive. I would like to express my gratitude to Sandro D'Odorico, team leader of the ODT when I came, and Dietrich Baade, the new ODT team leader who made my stay at ESO possible. Thank you for the advices, help, guidance, constructive criticism which have allowed me to acquire the necessary knowledge to evolve in the professional astronomical environment. I would like to thank all the members and former members of the ODT, Andrea Balestra, Cyril Cavadore, Claudio Cumani, Stephane Darbon, Sebastian Deiries, Reinhold Dorn, Marc Downing, Boris Gaillard, Christoph Geimer, Hans J. Hess, Evi Hummel, Olaf Iwert, Robert Niemeczek, Gustavo Rahmer, Roland Reiss, Javier Reyes and Michael Zaehring to whom I owe all what I know about CCDs but not only. During my stay your team spirit and determination to work have modeled my relation with the work, I owe you that too. I have a great deal of respect for you and I keep very nice memories from our work together, the best of all is when I received the "Young Achiever" award during the CCD workshop 2005 in Taormina. All these hours spent in the test bench have been awarded, this award is also yours.

I met other friends, particularly the Ledoux family and Claire and her family with whom I have spent many nice moments. I will never forget you, Veronica, chewing the seat belt while I was driving you and Cedric to the hospital because Elena was in a hurry to see the world. That was intense! Merci à tous les deux pour avoir partagé avec moi ces instants de bonheur.

I left Germany sad to leave behind my friends but also happy and curious because new adventures were ahead in Groningen. I reached the Kapteyn Astronomical Institute and once again, what would have I done without the secretaries of this institute? Jackie, Hennie, Ginneke and Greta, thank you for your help and support in finding a flat, getting a soft-number, or dealing with administrative problems. Georg, what would have I done without you in the labyrinth of the library? Thank you for your valuable help. It was also nice to discuss with you as an expert in eclipses, to share with you stories and pictures about such events. "Oh No, my computer is stuck!", "Why can't I print anymore??"... If you have such troubles with your computer you definitively need Wim, Eite, Martin, Hans, thank you very much for your support. Ole Müller, thank you! Not only for being here in the beginning to help me fighting with the new subject of research but also for giving me a real lesson of life. Monsieur Müller, chapeau bas! To reduce the data at my

disposal, I used Python. If you do not know this language I recommend you to give a try, it is very powerful. But I would have not progressed fast if “Python experts” were not around. Danny, Ewout, Ronald, Michel, I am very grateful for your help. It is a very pleasant feeling to work in a nice environment and it is exactly what I had among you dear Kapteyn colleagues. To all of you thank you. I would like to thank particularly all my officemates, Michiel, Edo, Teffie, Guido and Elif for sharing hopes, feelings, worries, I have spent very nice moments in your company. Edo, I thank you too for “sharing the burden with me” as you wrote in your thesis. When we were fighting to finish our theses together, if somebody had an instrument to measure the stress in our office, I think we would have broken records! It was good to have a comrade like you during this hassle period, I will not forget that! All my effort to write my thesis was not enough to have the right to defend it. I had to pass the trial of the “Nederlandse Samenvatting”. This obstacle would have been simply insurmountable if Peter Polko did not offer me his help! Peter thank you very much for translating my Summary. Without you I would have spent easily the next five years trying to write my “Samenvatting” in the language of Van Gogh.

Philippe, Ulrike, Adrien et Damien merci pour ces agréables moments passés en votre compagnie. J’ai en plus eu droit aux cours d’allemands les plus chouettes de Hollande avec thé et gâteaux sans compter à la fin le petit appétitif! Aaaaah que de bons souvenirs. Bruno, vive le Québec ribel, berli, erbil, bierl,... Enfin un jour peut être... En attendant continue d’être ce québécois fervant défenseur de la langue française sur les terres d’Amérique et aussi super bon ami avec qui j’ai passé de très bons moments. Stéphanie, merci pour ton aide au tout début. Je te remercie aussi pour m’avoir fait découvrir le Tango. Ah le Tango, quelle danse magnifique!

Maman, Papa, Nico, Sabrina, très honnêtement je ne sais pas par où commencer. Merci pour tout, merci d’avoir toujours été présent (même si entre nous il y avait 10 000 km), merci de m’avoir soutenu dans toutes mes aventures, merci pour votre bonne humeur, merci pour la force que vous me communiquez particulièrement pendant les moments difficiles. En contre partie on ne peut pas dire que j’ai été très présent les six dernières années qui se sont écoulées. C’était même tout le contraire. A trop vouloir me rapprocher des étoiles je me suis éloigné de vous. Trop concentré sur mon travail, ma réussite, je ne vous ai pas porté toute l’attention que vous méritiez, sincèrement désolé. Votre présence m’a manqué pendant cette longue période. Maintenant que cette “folie” est terminée, j’espère pouvoir être plus à votre écoute, plus présent, plus comme avant.

Mes amis (Nathalie, Nour, Magali, Pascal, Thierry “le grand”, Daniel, Elodie), ma famille n’a pas eu toute l’attention quelle méritait vous encore moins. Je vous ai négligé au point de n’entendre plus que quelques échos des événements qui vous ont touchés. Je vous dois à vous aussi mes excuses. Vous aussi vous m’avez manqué, beaucoup, mais j’espère vous retrouver tous bientôt!

Et Voilà! that’s it, you reach the end of this manuscript. As we spent quite some time together with you reader, I am not going to leave you like that. Let me invite you for dinner. I would like to share with you one of my hobbies, “La Bonne Cuisine!”, and make you discover the “Gratin Hollandais”. It is simple and de-li-cious, suivez-moi! (follow me!)

Fabrice Christen,  
Groningen, March 2007

# “*LE GRATIN HOLLANDAIS*”

- *THE DUTCH GRATIN* -

**Ingredients:** Fresh coriander, nutmeg, salt, 20 grams butter, one big onion, 250 ml of Dutch beer, Gouda cheese and 600 grams of potatoes.

**Directions:**

1. Cut the onion in thin slides and brown them in a pot with a bit of water. Be careful not to fry the slides of onion.
2. Meanwhile, cut the potatoes in slides. Do not wash the slides after cutting the potatoes.
3. Add the slides of potatoes in the pot. Complete with a bit of water if necessary.
4. Add the butter, fresh coriander, nutmeg, salt. Wait 15 minutes.
5. Pour the contents of the pot in a baking dish, the beer and sprinkle over the potatoes with grated Gouda cheese.
6. Place the backing dish in a preheated oven to 180 degree Celcius about 1 hour.
7. Serve it with a green salad and a cold glass of beer, Dutch the beer, of course!

Bon Appetit!

## Специално за моята Филийка

Да Филийке, аз съм вторият най-щастлив и късметлия човек на земята и вярвам, че ще продължавам да се чувствам по този начин и в бъдеще стига да продължаваме да вярваме един в друг. Утре ще обърнем една нова страница от нашия живот, което най-вероятно означава нови приключения, нови проблеми, нови надежди и нови тъги. За пръв път в моя живот не се страхувам да напусна моя дом и да посрещна промените. Дватама можем да започнем нов живот на нови места отново и отново и отново, но това вече не ме тревожи въобще. "Но как така, защо ?" – ще попиташ. А отговорът е толкова очевиден и прост: "Защото съм с теб. Защото ти си за мен моя дом."

Бих искал да ти благодаря Филийке за .... всичко, за твоята любов, търпение и грижа както и за твоето "мрън, мрън". Благодаря ти за това което си, и за това, че направи от мен един по-добър човек.

Обичам те, Sweetie