

VATLY NEWSLETTER

“For now forty years, astrophysics has made fascinating and spectacular progress. The whole of physics is invited to the banquet, particle, nuclear, atomic, molecular, plasma, solid state. The whole of physics, and also the whole world. Only a few privileged countries can afford to launch space missions or to build giant telescopes. But any country can, in principle, access the data. This is an opportunity that developing countries should not miss. The sky belongs to all of us. We are all made of the same star dust.”

CONTENT

This sixth issue of the **VATLY NEWSLETTER** starts, as usual, with some **NEWS FROM THE LABORATORY**. An **INTERVIEW OF PROFESSOR DAO TIÊN KHOA** follows. Khoa is our colleague at the Institute, and the Head of our department. He is a nuclear theorist with interests in nuclear astrophysics and experiments using radioactive beams, among others. After having spent 14 years abroad, in particular in Germany and in Taiwan, he came back to Vietnam eight years ago. His views on the situation in the country are particularly instructive. Diệp (**MY FIRST JOURNEY TO EUROPE**) and Nhung (**TWO MONTHS IN PARIS**) tell us next about their stay abroad in October and November 2005, Diệp in Catania and Nhung in Paris. We close this issue with a brief report by Thao of the **RECENT STAY OF PIERRE BILLOIR AT VATLY**. Pierre is a well-known member of the Auger Collaboration, from the Paris-Jussieu group, who spent ten days with us in April.

Please note: the new address of our web site is

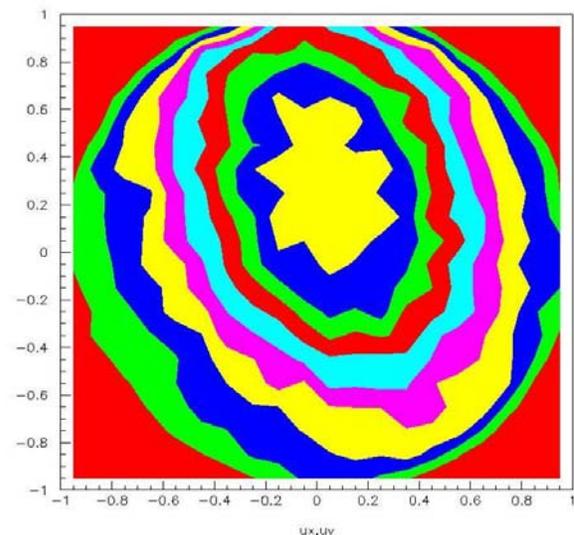
<http://www.inst.gov.vn/English/About/VATLY/Vatly.htm>

NEWS FROM THE LABORATORY

Under this heading we review briefly the progress of the work of the group and the main events in its life.

Dông and Thao have now completed the installation of, and have run in, the set of three small Cherenkov tanks that surround the Auger counter on the roof of the laboratory. We have been taking data for three months, enough to provide material for the master theses of Đông and Thao. The trigger requires a fourfold coincidence between the phototubes of two of the three tanks but the event sample retained at the end requires

also a signal in each phototube of the third tank. The trigger and final event rates are of the order of 1.0 and 0.01 Hz respectively. Figure 1 shows a plot of the projection on the horizontal plane of the reconstructed unit vector directed along the shower axis, namely $\sin\theta \cos\varphi$ vs $\sin\theta \sin\varphi$ where θ and φ are the zenith angle and azimuth respectively. As some events saturated the ADC's, we also took data where the ADC signals were not amplified (the amplifiers being used only for the trigger logics and the TDC signals). We have now stopped taking data and we concentrate our effort on the main Cherenkov counter, the idea being to study its response to showers detected as a triple coincidence of the three smaller surrounding tanks.



Projection on the horizontal plane of the reconstructed unit vector directed along the shower axis.

Most of the work involved in getting these tanks working was done by Đông, under his initiative or supervision, and it provides more than enough material for the master thesis that he is now

writing. He will present it in October this year to the Hanoi University of Technology (HUT) where he comes from. Thao has been working together with Đông on most of the tasks associated with this installation and running in, particularly on the data acquisition part of the game. Her master thesis will deal with the analysis of the collected data and their comparison with a simple Monte Carlo simulation that she is presently working on. As far as the main Cherenkov counter is concerned, we have now completed its refurbishing and are setting it up with a large scintillator plate lying on its floor. Only when everything will be well tuned shall we remove the scintillator plate and fill the tank with water. As part of the refurbishing action, Đông has also dismantled, cleaned and remounted our CAMAC and NIM crates, which had accumulated lots of dust over the years.

Nhung has now completed her master thesis and handed it over to Hanoi National University where she defended it on the 26th of April. She gave a brilliant presentation and received an excellent mark: 9.8, corresponding to four 10 and one 9 from the five referees. She will continue her work on the analysis of FADC traces from Auger for her PhD thesis under joint supervision from Pierre Billoir in Paris and our Pierre in Hanoi. This system of joint supervision, “cotutelle” in French, is particularly well suited to our case: it gives a guarantee of quality, it helps easing the procedure in Vietnam (that is particularly complicated), it establishes close contacts between the two teams involved, it gives the student a chance of spending time abroad, it opens his/her mind to a new experience and it also gives him/her the benefit of obtaining two degrees, one in each country. Moreover, it is incomparably better than letting the student go abroad, in which case he/she is temporarily (when not definitively) lost for us, a loss that we cannot afford at the present stage of our growth, having not yet come of age.

Nhung spent October and November in Paris with Murat Boratav and his group, as was announced in the last issue. She worked there with Pierre Billoir, and she reports on it elsewhere in the letter.

Diệp also spent the months of October and November abroad, in Catania with Antonio Insolia and his group. He also reports elsewhere in the letter. Both Nhung and Diệp spent the last days of their European journey visiting CERN where they

were warmly welcome by the friends of VATLY. Diệp has completed his studies related to the fluorescence detector and has nearly completed the writing of his master thesis on this subject. He should defend it around the month of October at the Institute of Physics. During his stay in Catania, it was agreed that he would make his PhD thesis under joint supervision of Antonio Insolia and Pierre, “cotutela” in Italian. As a first step he was supposed to go and spend two months in Malargüe at the occasion of the March meeting of the Auger collaboration in order to get familiar with the fluorescence detector, learn how to take calibration and atmosphere monitoring data and take FD shifts. But it was finally postponed to a later date in the year because of a clash with the schedule of another Catania PhD student with whom he was supposed to go. This is why finally Diệp stayed in Hanoi and consoled himself... by getting married as witnessed by the beautiful photograph below. Part of Diệp thesis has been submitted for publication to Comm. Phys. Vietnam after having been shown to some FD experts in Auger who kindly made their comments.



Diệp and Dung: just married!

Kim Thi Phuong and Nguyen Việt Phuong, the fourth year students working with us on their graduation thesis, have had no time to work at the Institute in 2006 as they were fully taken by their studies and examinations at the university. This is now over and they have come back and have nearly completed the writing of their theses.

By Têt – the year of the Dog – Pierre had completed his second cycle of astrophysics lectures

at the National University, this time grouping fourth year students from different classes. It was better than the preceding year (where the lectures were given to second year students of a single class) but still far from what is required for a sensible program of university training in astrophysics. Let us hope that next year it will still be better and hopefully include lectures in nuclear astrophysics and in spectroscopy by other lecturers with a still broader audience.



Students of the group with Pierre after his lecture at Hanoi University. Left to right: Viêt Phuong, Diệp Nhung, Pierre, Kim Phuong and Đông.

A joint meeting (the so-called Osaka-Hanoi forum) took place at the end of September in the National University, bringing together scientists from Hanoi and from Osaka (Japan). Nhung was invited to present VATLY and its work, which gave us an excellent opportunity to make ourselves better known. A copy of her talk is available on our web site. Osaka had invested much effort in making this forum a success, sending to Hanoi some 120 physicists. The result was a meeting of high scientific standard, with an impressive number of Japanese presentations covering a broad spectrum of physics subjects. The astrophysics session, where Nhung was invited to report, was very dense with particularly interesting presentations on recent progress of X-ray and neutrino astronomy by Emi Miyata and Henry Tsz-King Wong respectively. The proceedings are now published in *Frontiers of Basic Science, Osaka University Press, 2006*.

Shortly after was the Einstein day (it would be more correct to say the Einstein morning) that was celebrated at the HUT. It was organized by the Vietnamese Physical Society (VPS). It included a

very nice talk by Chu Hao on *The World as I see it*. Pierre was invited to give a talk on modern astrophysics. It gave him another opportunity to make propaganda for the teaching of astrophysics in Vietnam by ending his talk with the usual sentences: “*cosmology/astrophysics is the most exciting and dynamic field of physics today. For Vietnamese students to enjoy learning it, Vietnamese universities must teach it*”. He also showed once again his pet slide that says, on a background of the Chariot Wheel exploded galaxy, the words reproduced in the header of the present letter. At the occasion of this Einstein day, Đông, who graduated from HUT and was therefore at home, was invited by the astronomy and nuclear physics section of the VPS to present VATLY in Vietnamese to an audience of physicists and of fifth year HUT students (in technology universities, studies last one year longer than in other universities).

In December an exhibition was held downtown of projects receiving support from the United States. Each project was represented by a set of posters summarizing its aims and achievements. We went there with three posters and a few other gadgets, which Thao, dressed as a queen, brilliantly presented and commented to the public.



Thao and a colleague at the Vietnam-US exhibition.

The 12th Vietnam School of Physics (VSOP XII) was supposed to be held in Nha Trang, where we all had happily prepared to go. But at the very last moment – we had already bought our tickets – someone somehow decided that it should take place in Hanoi. We felt sorry about this decision... but we had no choice. Anyhow, the school was as usual very informative; we particularly enjoyed the lectures by Alain

Blanchard on dark energy and by Meenakshi Narain on Collider Physics. There were, as usual, miniseminars given by the students. Diêp and Thao reported. There were also tours to Mai Chau (Hoa Binh province) and to Bat Trang, a village in Hanoi's suburbs specialized in china craftsmanship. The school banquet took place in hotel Hoa Binh.

At the end of March, on our request and together with Khoa who organized it, we held a propaganda seminar at the National University that was attended by physics students, mostly by third year students of the nuclear physics class, but also from other classes and other years. The idea was to attract good and well motivated students to work with us at the Institute. The presentations were in Vietnamese and the slides in English. Diêp presented VATLY and Khoa presented the topics he is working on in nuclear structure. The students were quite interested and asked many questions. We hope it will bear fruits.

The most recent event at the Institute has been the visit of Pierre Billoir who spent ten days with us. We made him work very hard to teach us many subtleties concerning the analysis of the Auger surface detector (SD) data, in particular questions related to the relative abundance of muons with respect to soft electromagnetic showers, an important parameter in identifying the nature of the primary. He gave a general presentation of recent Auger achievements to an audience of physicists, mostly from our Institute. His stay has been for us both extremely enjoyable and profitable and we are deeply grateful to him for the time and effort he invested in helping us. On our side, we did our best to make him enjoy his stay, keeping some time for visits, including of course the inescapable and wonderful Ha Long Bay, and for Vietnamese gastronomy. No doubt, he will soon come back...

In August this year, the traditional Rencontres du Vietnam conferences will take place in Hanoi. It will be for us an opportunity to meet many friends, to keep up to date with recent progress and to give a presentation on what we are doing. But it will also be the great pleasure and honour of having Jim Cronin with us for a week before the Conference: we are eager to welcome him, to show him our progress, to learn from him... and to do our best to make him enjoy his stay with us. After the conferences, a short Summer School

on astrophysics will be held at the Pedagogic University, it will be very profitable to us.

Nhung will go back to Paris in Spring 2007 for a few months and join the Auger collaboration meeting in Malargüe; Đông and Thao will spend the months of November and December 2006 at Orsay: Tiina very kindly accepted to welcome both of them in her group. For what concerns Diêp, he will go to Malargüe, to take FD shifts and learn about the intricacies of atmosphere calibrations and others, as soon as compatible with the Catania time table.

We must unfortunately end this short report on a sad note: we learned recently that the French CNRS, who had been helping us with a significant financial support, of the order of 6 keuros per year, will not be able to continue it because of new regulations that make this kind of help impossible. We are actively looking for other sponsors, any suggestion is of course welcome.

AN INTERVIEW OF PROFESSOR DAO TIEN KHOA

Diêp, Đông and Nhung interviewed Professor Dao Tiên Khoa, the Head of our Department, on his evaluation of Vietnamese research and university training in comparison with other countries he has been working in.

VATLY: How do you compare your experience of university training and research in nuclear physics in Germany and Taiwan with Vietnam, the level of students and the level of the research and academic staff?

Khoa: The level of students, not only in Germany and Taiwan but also in many other universities in the world and even in the Asian region, is higher than in Vietnam. I suppose that students are the same everywhere in the world, but in other countries the training given to them has been better optimized. As a result, students from other countries often have a better background than Vietnamese students have. Their ability to enter into a new work is faster. The level of their research and academic staff is also higher. They usually have reasonable salaries and can concentrate on their work. As you know, it is not the case in Vietnam, with inescapable consequences on the quality of their teaching and research.

VATLY: Vietnam has stated its determination to use nuclear power starting a decade or so from now. Do you think that it is getting prepared to it in a proper way? What do you think should be done to improve the situation?

Khoa: This is right; Vietnam plans to have a first nuclear power plant in 2017. It is indeed a major element in the planned program of the government. But the main problem is the shortage of manpower. To buy a plant is not difficult, but we need competent manpower to operate it. It would be very bad if we had a nuclear power plant that we are unable to operate and maintain. Foreigners would then do every thing for us, construction, maintenance and operation. Until now, we lack a global strategy as well as a concrete plan to train efficiently scientists, engineers and technicians to this task. It is now high time to spell out a clear policy and to plan a series of actions that should be undertaken right away. In parallel, we should care about explaining to the population what it is about, to tell them about the safety measures that accompany such a project: many are still afraid of nuclear power and remember the Chernobyl accident. But the priority is to train the young students. For them to be able to take part in the construction, operation and management of the new plants we need to start right now.



Khoa and the VATLY group

VATLY: History, with thirty years of war, is the cause of much of the delay that Vietnam universities are enduring today and the reason why the country does not have the universities that it deserves. How long do you think it will take to catch up? What, in your opinion, should be done to speed up?

Khoa: It is true that history has caused Vietnam universities to lag behind other universities in the world. But thirty years have elapsed already since the end of the war. We lack a global strategy to build an advanced education system. The present infrastructure is not good enough. By infrastructure, I mean not only schools, tables, chairs, educative equipment, but also a good staff of lecturers, researchers and education managers. It has become obvious now that Vietnam does not make good use of its best scholars. We simply let our young talents go abroad, and those who remain at home to serve the country are sometime simply ignored: this gives no motivation for the young talents to stay, to work and to create in the country. For example, there are several leading scientists (both Vietnamese and foreigners) presently working and living in Vietnam, whom universities rarely invite to give seminars or lectures to their students. Also the collaboration between Vietnamese physicists themselves is not as good as it should be, everybody tends to only care locally about their own work and it is very difficult to organize a scientific seminar or workshop with a broad participation of the country scientists working in the same field. On top of that, the current administrative handling of education and science in Vietnam is overloaded with too many inappropriate formalities which, on the one hand, can easily give rise to bureaucracy and corruption and, on the other, prevents Vietnamese education and science to have the healthy development that it deserves in order to come up to the regional and international standards. My biggest dream now is that our country will find the way to overcome these obstacles, to really speed up the development of science and education in Vietnam.

VATLY: Is there anything else that you would like to add and tell us about?

Khoa: Now, you are still very young. You must make every effort to learn and to master what you are working on. We, as the “old” teachers, will do our best to support you and to help you in contributing to the cause of science and education.

VATLY: Thank you very much for having given us this thoughtful interview.

MY FIRST JOURNEY TO EUROPE

Diệp reports below about his stay in Europe in October and November 2005.

In the framework of a common research project between Asia and Europe, I was chosen to go to Catania for two months, October and November 2005. Making use of this opportunity, Pierre suggested that I and Nhung should also go to CERN where he had been working for many years and where many of his friends are still working. That was the first time I went out of Vietnam. Therefore, I was very eager to learn new things from the journey.

The first experience, which I remember very clearly, is that my flight from Rome to Catania was delayed by more than one hour. In addition, I had to wait for nearly another hour waiting for my luggage at Catania airport. Therefore, when I could get out of the airport, it was already dark. I could still see someone, Domenico d’Urso (Mimmo), a PhD student of the Catania Auger group, with a notice-board in his hands and a “tired” smile waiting for me (he had been waiting for me for such a long time). I was really worried that no one would be there to pick me up because the flight had been so much delayed. It was such a relief to see him, I knew I could relax: I am still so grateful to him for having waited.

At the University of Catania, under the instructions of Antonio and the students of the group, especially Mimmo and Mario Scuderi, I had a chance to learn C++ and ROOT – a language and a software used to analyze Auger’s data – and I also learned how to use Auger Offline Software to reconstruct the geometry of air showers detected by the Fluorescence Detector (FD). Hence, I could study some problems encountered in the reconstruction of Auger FD events. Although the students were very busy because they had to complete their theses, they always enthusiastically helped me whenever I needed.

I was given a desk in a PhD students’ room, where PhD students of the Physics Department are working. The idea is to give them a chance to be close together so they can discuss or exchange their experiences with each other. This is a good idea, there are no such rooms in Vietnamese universities. Students were very friendly and helpful. We talked

a lot to each other. They told me about their work and I could also receive advice about the places where to go to tour Sicily. I had my meals in a student canteen named Snow Ball because it looks like a huge snow ball. I had a chance to make friend with many students there. They came from all parts of Sicily and some were also foreign students like me. They kindly called me Agatino, a name after the patron saint of Catania, Santa Agata. It was a Sicilian student, Antonino Grillo, who had the idea to give me this nickname and I was quite touched by his kind attention. He came to me like a priest, put his hand on my head and said “Now, you are Agatino and you belong to Sicily”. Then my new name propagated to the others and everybody called me Agatino, even the manager and the waitresses of the Snow Ball. They seemed to love the idea of a small Asian student with an Italian name! This was one of the nice experiences I had in Catania. They also patiently taught me some Italian and supplied me with all kinds of information about the students’ life. I was lucky to have a chance to chat with them. Thanks to them, I could learn the differences in lifestyle, interests and way of thinking between Vietnamese and Sicilian students.



Farewell party in Catania, left to right: Antonio, Deborah, Giovanna, Mario and Diệp.

My stay in Catania was also an excellent training for my ability to organize and carry out a tour, an experience I had not had in Vietnam. Each weekend, I went somewhere, either in the surroundings of Catania or to some other Sicilian town. For the first time, it was quite difficult because people don’t speak much English. Everything was so different from Vietnam. For the first time, I even didn’t know how to pay my seat in the bus. However, when my stay was over, I had

visited most important sites of Sicily, such as Palermo, Messina, Syracuse, Taormina and Agrigento. I could see the beautiful palaces and churches in Palermo, all amazingly well maintained, Achimede's native land in Syracuse, Greek ruins in Agrigento and the most imposing sight that I had ever seen in my life, Taormina, a small town built on a hill and overlooking the sea. Besides enjoying the cool weather and admiring impressive constructions such as the zigzagging road that climbs on top of the highest hill of the town, it was a really wonderful feeling to see the crystal Mediterranean Sea and Mount Etna, an active volcano, blowing its smoke up in the sky.

At CERN, we were warmly welcome by Pierre's friends: Suzy, Sandro, Nanie, Daniel, Livio and Jean-Michel. Right after we had arrived in the afternoon by TGV from Paris, Daniel took us to ATLAS because the day after he had to leave for a meeting in Paris. I was so impressed by the enormous size and the amount of work that people have put in it. It is a huge experiment. People even took care to measure and correct the small vertical displacements of ground induced by the enormous pressure exerted on it by the detector. We were lucky to visit ATLAS at that time because we could see the central detector being placed in position. If we had come a little later we would have seen nothing because everything would have been packed in a closed box. Suzy was so kind to us: she "supervised" the organization of our stay and she made a very good schedule, so we could not only visit the essential parts of CERN but also pay a visit to her very nice house in Geneva, listening to a Vietnamese music CD which she and her husband Sandro had kept from long ago, since Vietnam War time I think. Livio took us around CERN to the control building of CMS and ATLAS experiments, to visit some other Pierre's friends and to the place where Pierre's experiment, UA2, had been carried out. Jean-Michel took us around Geneva and to an observatory located in a forest where Sarah, his daughter and also our friend (she visited Hanoi), was working for her graduation thesis. It was the first time I had seen so much snow. Snow was everywhere. It covered a huge area, as far as we could see. What a wonderful sight! We also had time to see a little bit of Geneva and buy some Swiss gifts before coming back to Paris.

I had only one full day left in Paris. It was enough for Nhung and one of my friends to take

me around. We paid a visit to the Eiffel tower, Notre Dame, the Champs Elysées and had a tour around the city. Paris is a beautiful town. I was so surprised to see Eiffel tower and Notre Dame so much bigger than I had imagined. I didn't think people could make such great works. It is worth to see them to get an idea of what people can do! In that evening, I was very happy to meet Tiina who had been to Vietnam to give lectures at our institute and we had a very traditional French dinner at her house with a lot of typical French food and we stayed together until over midnight. It was really an unforgettable dinner.

This journey made me see with my own eyes wonders of nature, science and mankind in three different European countries. They really impressed me. But what impressed me most, and which I'll always remember, is how kind people whom I met in Sicily, in Paris and at CERN have been to me. I don't know how to express how grateful I am. At least, let me take this opportunity to wish them good health, happiness and success in their work.

TWO MONTHS IN PARIS

Nhung reports below about her stay in Europe in October and November 2005.

On an exchange program with the French CNRS, I spent the months of October and November last year with the Paris Auger group. The purpose of the stay was, as our Pierre had put it, to give me a chance to "see the world and to learn something useful for VATLY".

My first day in Paris was a nice and long day. I arrived very early in the morning. Murat picked me up at the airport and took me to my flat before going to the lab. There was a strike that day, so it took longer than usual to reach Paris from the airport. Therefore, we had a lot of time to talk to each other. We talked about our groups, VATLY in Hanoi and the Auger group in Paris, about my work and about the plan for my stay. I also learnt from him how to go around Paris, by bus or by metro. Murat is a very likable and considerate person. He helped me to complete the paper work at the university; he bought for me a travel card and gave me another card for the university canteen. Every thing was done within an hour!

I have to admit that I was quite worried before meeting Pierre Billoir, who was going to look after my work during my stay. I had seen his name being quoted everywhere, in Event Display, a well-known program used to display Auger's data, and in many papers and Auger GAP notes: I was wondering what kind of a person he was, how it would be to work with him. But as soon as I had met him I knew that my worries were out of place and that I was going to learn a lot from him, from his deep knowledge of physics and his enthusiastic approach to science. He spent an afternoon listening to me telling him what I had done in Hanoi, and discussing with me about what I was interested in and what I could be doing with him.

I was given a desk in the same room as Pierre. I started with the study of a program of his, aimed at identifying muons in FADC trace. It was similar to what I had been doing in Hanoi. As I was not familiar with C++, Pierre suggested that I should try to put my own analysis code into his as an exercise. He always encouraged me to ask questions and he always answered them in detail, whether they were about physics or about programming. I'm very grateful to him for having shared with me so many of his views about research, about Auger, about the problems to be solved... and even having shared with me the apple he usually took to the lab for his afternoon snack. Unfortunately, my stay in Paris was clashing with his teaching duties that were at a peak at that time. He said he was sorry not to be able to spend more time looking after my work but in fact he always found the time to follow closely what I was doing. Next time, he suggested, I should come in spring time, it will be more convenient from this point of view and more pleasant for me to enjoy my stay.

The Paris Auger group includes four senior physicists, two post-docs and two PhD students. They work on quite different topics and relatively independently from each other. I was close to the two post-docs, one from Germany and the other from Spain, Andi and Oscar. We quickly became good friends and they cheered me up when I was homesick or missing the lively working atmosphere of VATLY. The other members of the group were also very friendly but I did not have much chance to talk to them. A good surprise was that Cecile, the only female in the group, was born on the same day as me. We were very touched when the members of the group organized a birthday party for us on the last day of October.

I really enjoyed seeing again Tiina Suomijarvi. She had been in Hanoi two months earlier and gave lectures at the nuclear physics and astrophysics school that had taken place in our institute. She is a particularly active member of the Auger Collaboration. She has been very kind to me and has helped me a lot during my stay in Paris. Just a few days after I arrived, she invited me for lunch in her nice flat and took me to some famous sites in Paris. It was my first time in Paris. Everything looked strange to me. Tiina took so much care of me, from lending me a cell-phone to showing me a place where I could buy Vietnamese food. She also invited me to visit the Auger group in Orsay and to give a talk introducing them to our Hanoi group. I was so happy to visit such a beautiful lab and to meet so many very friendly people, Etienne, Joël, Isabella ... who had already been in Hanoi or at least knew about us.



A French dinner at Tiina's place in Paris.

Paris is a very old and nice city. I liked to stroll around, visiting bookstores and walking along the Seine River. It was really a wonderful time. To visit Paris had been a dream of mine for a long time, and now it had become true.

The two last days of my stay were spent with Diêp at CERN. We were warmly welcomed by Pierre's friends, Suzy, Sandro, Daniel, Livio and his son Alessandro, Jean-Michel.... I was very impressed by the international working atmosphere at CERN. What a chance to be able to work in such environment!

I saw so many things and met so many people, it really was a profitable journey. Let me take this opportunity to express my deep gratitude to all my friends who helped me in making it a success.

PIERRE BILLOIR AT VATLY

Thao reports briefly below on the recent stay of Pierre Billoir in Hanoi.

In the first days of April, we were very pleased to welcome Pierre Billoir (from LPNHE, University of Pierre and Marie Curie, Paris VI/Jussieu) in VATLY. The aim of his visit was to help and speed up the implementation of the scientific collaboration between Auger Vietnam and Auger France.

During his stay, Pierre gave us a series of six lectures on specific questions related to the performance of the Auger surface detector (SD) : event selection, measurement of the shower depth and width, magnetic distortions of the ground imprint of inclined showers, universality of atmospheric showers and muon counting, both in simulated and real events. He also gave a seminar on the current state of Auger installation, operation and related matters. The younger research staff of INST attended the seminar, together with other interested persons. To us, these lectures were a mine of useful information for our work. We also learned from him practical tricks, such as using Little Brother to monitor the experiment.



Pierre with the group

As an exercise, we located the tank named VATLY which two of our earlier colleagues (Dinh and Phuong) had helped installing. Because of some

technical difficulty, this tank had been kept empty for two years, and was finally filled up with pure water at the end of last year. It has been running smoothly since then. We were happy to see that VATLY was now doing well on the other side of the earth. We spent some afternoons learning about and implementing CDAS and Aires. The first one was difficult to install, we had to fix some bug, and it took us time before we could exploit the full beauty of the system. But this is over now, and we are able to read the stations' data and make good use of them. With Aires, it was much simpler; it was more a kind of a game. We installed it and had a lot of fun playing it, changing the input conditions to see the shower evolve and understanding better the physics behind it.

In listening to Pierre, we could see, better than before, how VATLY could now start contributing concretely to the work of Auger, in close collaboration with the LPNHE, and may be, some day, be able to produce GAP notes. Pierre and our Pierre had many lively and fruitful discussions on the subject.

Pierre was of course jet-lagged, suffered from the hot and humid climate and had to get used to Vietnamese food. But we were merciless and made him work like a dog, harassing him with millions of questions. He very patiently answered all of them, never departing from his quiet and happy temper. As compensation we arranged a few relaxed dinners and evenings for him and guided him through the Museum of Ethnography – a nice museum at walking distance from the lab – the Ho Chi Minh Museum, the Temple of Literature (a University that was built in Hanoi during the XIth century) and the emblematic One-pillar Pagoda. He also spent a Saturday together with Diêp and I in Ha Long Bay, the rain just stopped when our boat left the wharf... And Nhung and Đông took him to the traditional water-puppet show.

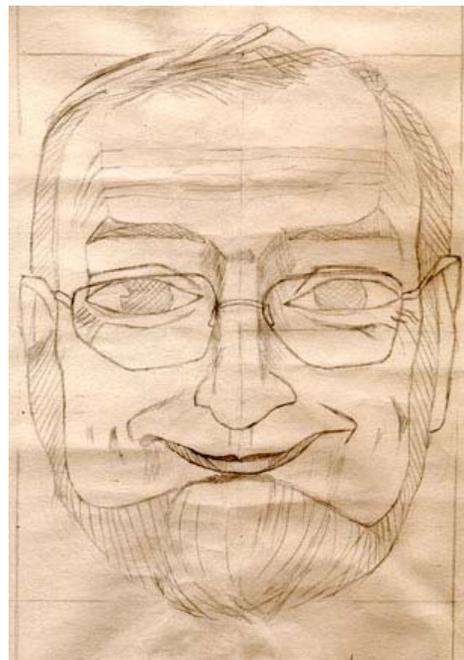
Time passed by very fast and now all of us have returned to normal work... but we keep such a good memory of his stay with us and we hope very much to see him again soon.

Distribution: *Patrick Aurenche, Jean Pierre Bibring, Pierre Billoir, Murat Boratav, Bui Duy Cam, Georges Charpak, Nguyen Duc Chien, Bach Thanh Cong, Jim W. Cronin, Minh Ha Pham-Delègue, Manoel Dialinas, Luigi Di Lella, John Ellis, Alberto Etchegoyen, Daniel Froidevaux, Yoshitaka Fujita, Nguyễn Văn Giai, Dao Tien Khoa, Jacques Haïssinski, Nguyen Van Hieu, Morihiro Honda, Pham Quoc Hung, Antonio Insolia, Stavros Katsanevas, Marc Lachièze-Rey, Peter Mazur, Etienne Parizot, Michel Pedoussaut, Eliane Perret, Denis Perret-Gallix, Bernard Peyaud, Joël Pouthas, Philippe Quentin, Burton Richter, Jean-Michel Rieubland, Jonathan L.Rosner, Shin'ya Sawada, Dieter Schlatter, Paul Sommers, Michel Spiro, Jack Steinberger, Tiina Suomijarvi, Christine Sutton, Marilena Streit-Bianchi, Tran Minh Tam, Dick Taylor, Samuel C.C. Ting, Hiroshi Tsunemi, Hoang Tuy, Odon Vallet, Jean Tran Thanh Van, Suzy Vascotto, Sylvie Vauclair, Alan Watson, Achim W. Weidemann, Atsushi Yoshida, Antonino Zichichi.*

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*Issues 1 to 6 of VATLY's Newsletter are available from our web site
<http://www.inst.gov.vn/inst/English/About/VATLY/Vatly.htm>*

- PHOTO ALBUM -



*The many skills of Thao include those of a talented cartoonist.
Left: Pierre D and right: Pierre B.*



At Suzy's place, left to right: Sandro, Nhung, Suzy and Diệp



Visit to ATLAS workshop, left to right: Sarah, Tuan, Nhung and Daniel



With Pierre Billoir in the lab.



Dông and Pierre overlooking Hoan Kiếm Lake.



With Pierre Billoir in the lab



Pierre, Pierre... and a little bit of Nhung