LPTHE - Laboratoire de physique théorique et hautes énergies

Rapport Hcéres

agence d'évaluation de la recherche et de l'enseignement supérieur

Department for the evaluation of research units

AERES report on unit:

Laboratoire de Physique Théorique et Hautes Énergies

LPTHE

Under the supervision of the following institutions and research bodies:

Université Paris 6 – Pierre et Marie Curie

Centre National de la Recherche Scientifique

December 2012

agence d'évaluation de la recherche
et de l'enseignement supérieur

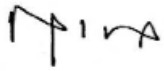
Research Units Department

President of AERES

Didier Houssin

Research Units Department

Department Head



Pierre Glaudes

The president of AERES "signs[...], the evaluation reports, [...]countersigned for each evaluation department by the relevant head of department (Article 9, paragraph 3, of french decree n°2006-1334 dated 3 november 2006, revised).

Grading

Once the visits for the 2012-2013 evaluation campaign had been completed, the chairpersons of the expert committees, who met per disciplinary group, proceeded to attribute a score to the research units in their group (and, when necessary, for these units' in-house teams).
This score (A+, A, B, C) concerned each of the six criteria defined by the AERES.
NN (not-scored) attached to a criteria indicate that this one was not applicable to the particular case of this research unit or this team.

Criterion 1 - C1 : Scientific outputs and quality ;
Criterion 2 - C2 : Academic reputation and appeal ;
Criterion 3 - C3 : Interactions with the social, economic and cultural environment ;
Criterion 4 - C4 : Organisation and life of the institution (or of the team) ;
Criterion 5 - C5 : Involvement in training through research ;
Criterion 6 - C6 : Strategy and five-year plan.

With respect to this score, the research unit concerned by this report (and, when necessary, its in-house teams) received the following grades:

- Grading table of the unit: PHYSIQUE THEORIQUE ET HAUTES ENERGIES

C1	C2	C3	C4	C5	C6
A+	A+	NN	A+	A+	A+

- Grading table of the team: Mathematical Physics

C1	C2	C3	C4	C5	C6
A+	A+	NN	A+	A+	A+

- Grading table of the team: Strings, Branes and Fields

C1	C2	C3	C4	C5	C6
A+	A+	NN	A+	A+	A+

- Grading table of the team: Statistical and Condensed Matter Physics

C1	C2	C3	C4	C5	C6
A+	A+	NN	A+	A+	A+

- Grading table of the team: Particle Physics and Cosmology

C1	C2	C3	C4	C5	C6
A+	A+	NN	A+	A+	A+

Evaluation report

Unit name:	Laboratoire de Physique Théorique et Hautes Energies
Unit acronym:	LPTHE
Label requested:	UMR
Present no.:	7589
Name of Director (2012-2013):	Mr Olivier BABELON
Name of Project Leader (2014-2018):	Mr Benoît DOUÇOT

Expert committee members

Chair:	Mr Jean-Paul BLAIZOT, IPhT CEA-Saclay
Experts :	Mr Guido ALTARELLI, Université Roma Tre, Italie and CERN, Genève, Suisse
	Mr David DEAN, Université de Bordeaux, (representative of CNU)
	Mr Luis Alvarez-GAUME, CERN, Genève, Suisse
	Mr Krzysztof GAWEDZKI, ENS Lyon
	Ms Patrizia VIGNOLO, Université de Nice -Sophia Antipolis, (representative of CoNRS)
Scientific delegate representing the AERES:	Mr Cristinel DIACONU

Representative(s) of the unit's supervising institutions and bodies:

Ms Chantal-Jeanne STEHLE, Directoire de l'UPMC, Université Paris 6

Mr Bart van TIGGELEN, CNRS INP

1 • Introduction

History and geographic location of the unit

The LPTHE is a 'Unité Mixte de Recherche' (UMR) of CNRS and Université Pierre et Marie Curie. It was created in 1975 and is located in Paris, Place Jussieu, on the campus of the University. It is part of the Fédération de Recherche Interactions Fondamentales (FRIF) with the Laboratoire de Physique Théorique of Ecole Normale Supérieure (LPTENS) and the Laboratoire de Physique Nucléaire et Hautes Energies (LPNHE). Since 2011 it is part of the labex Institut Lagrange de Paris (ILP) together with LPNHE and the Institut d'Astrophysique de Paris (IAP). The research activities of LPTHE cover areas of mathematical physics, string theory, particle physics and cosmology and statistical and condensed matter physics.

Management team

Mr Olivier BABELON (Directeur) assisted by a «Conseil du Laboratoire» and a very efficient secretarial staff. Mr Benoît DOUÇOT will take over as Director on January 1st, 2014.

AERES nomenclature

ST2

Unit workforce

Unit workforce	Number as at 30/06/2012	Number as at 01/01/2014	2014-2018 Number of project producers
N1: Permanent professors and similar positions	11	10	10
N2: Permanent researchers from Institutions and similar positions	20	21	21
N3: Other permanent staff (without research duties)	4	4	
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)			
N5: Other researchers from Institutions (Emeritus Research Director, Postdoctoral students, visitors, etc.)	4	4	4
N6: Other contractual staff (without research duties)			
TOTAL N1 to N6	39	39	

Percentage of producers	***100 %***

Unit workforce	Number as at 30/06/2012	Number as at 01/01/2014
Doctoral students	10	
Theses defended	20	
Postdoctoral students having spent at least 12 months in the unit*	27	
Number of Research Supervisor Qualifications (HDR) taken	2	
Qualified research supervisors (with an HDR) or similar positions	24	24

2 • Assessment of the unit

Strengths and opportunities

Strong and recognized expertise is present in several areas of theoretical physics (one of the best laboratory in the discipline in France), with several outstanding researchers who are leaders of their field at the international level.

A very positive evolution is observed over the last decade. The unit has proven its ability to adjust to a rapidly changing environment, and has succeeded in hiring junior and senior scientists of the highest profile.

The research unit benefits from an exceptional geographical location, with many opportunities of interaction with nearby laboratories, including experimental physics and mathematics.

The research unit benefits from (and contributes to) an exceptional seminar program in the Paris area.

The unit is part of the Federation de Recherches Interactions Fondamentales (FRIF), who was created at the initiative of members of the unit, and is directed by one member of the unit. The FRIF has a very positive role, in particular in fostering interactions between the unit and nearby laboratories.

New opportunities are offered by the participation to the Labex Institut Lagrange de Paris.

Weaknesses and threats

The large wave of retirements in the next five years represents a serious concern for the future of some activities, in particular in elementary particle physics and, to a less extent, in mathematical physics.

Recommendations

Given the large number of retirements expected in the coming years, new hiring should focus on consolidating existing activities rather than creating new research themes. The committee fully supports the priorities that were presented, in particular that of hiring a junior scientist in particle phenomenology (in the areas of LHC physics, Standard Model and beyond). A second hire at the junior or more senior level could even be considered if opportunity arises. Recruitment in cosmology that could be envisaged within the ILP should carefully take into account the specific research themes of the unit, and the existence of a strong cosmology group in a nearby university.

The mathematical physics team will also suffer from a large number of departures, but has benefited recently of the recruitment of two outstanding young researchers. The committee encourages the unit to explore all the instruments available at CNRS and the UPMC in order to foster the interactions with the mathematicians, locally and beyond.

The committee encourages the unit management to pursue its efforts to maintain the collaborative atmosphere of the unit. Trying to run a regular common seminar could be envisaged as a modest effort in this direction.

3 • Detailed assessments

Assessment of scientific quality and outputs

The unit is a leading laboratory of theoretical physics, with publications in the best scientific journals (with, for instance, the most cited article of JHEP during the period, as well as one paper in Nature). Over the period, at least two major breakthroughs (jet algorithm, entropy of black holes) have had an enormous impact. In particular, the new method developed at LPTHE to identify jets in high energy collisions is used now by all the collaborations at the LHC.

Several members of the unit are world leaders of their field, and research carried out in all areas of LPTHE reaches the highest international standards.

Assessment of the unit's academic reputation and appeal

Members of the unit have received prestigious national and international awards (silver medal of CNRS, chair of excellence of ANR, ERC junior, one junior member of IUF, Aniuta Winter-Klein prize from 'académie des sciences').

Members of the unit are PI's of international grants. Several members have been offered fixed term (and one permanent) positions at CERN.

The unit has managed to proceed to first class recruitments at the junior and senior level. One exceptional recruitment at the senior level will foster activities in condensed matter within the unit, and will also benefit to the whole condensed matter community in the Paris area as well as strengthen relations with experimentalists.

The unit hosts very high profile international visitors. It runs an excellent postdoctoral program, and is very attractive to the best young researchers worldwide.

Assessment of the unit's interaction with the social, economic and cultural environment

The unit can be credited of several outreach activities (e.g. Film « Colliding particles »). It has taken initiatives to develop new collaborations across institutions (e.g. Labex ILP). Some theoretical work in condensed matter (e.g. superconducting q-bits) is motivated by applications. All these demonstrate that the unit is not absent of its social, economic and cultural environment.

Assessment of the unit's organisation and life:

The unit benefits from a flexible and collegial management, with excellent communication between the staff members. In addition to the laboratory council which meets two or three times a year, a general assembly of the permanent staff is held monthly.

A clear priority is given in the major decisions (e.g. recruitments) to scientific excellence.

The overall atmosphere of the laboratory is excellent, and the personnel are dedicated to their tasks, and happy to work there.

The Director should be commended for his remarkable leadership during his two terms at the head of the unit.

Assessment of the unit's involvement in training through research

The unit is within the university UPMC, and a third of its members have teaching duties. Over the period, 36 students have obtained or are preparing a PhD. All those who have completed their PhD have found a job. About 70 master students have been welcome by the unit for internships of various durations.

Starting from 2014, the researchers of LPTHE will be affiliated to the Ecole Doctorale ED107, with the exception of one of them affiliated to ED517 from Paris 7.

Through the FRIF, the student have the possibility to attend a monthly colloquium of high quality (Colloquium Pierre et Marie Curie, created by two members of the unit). Also through the FRIF one day is organized annually to inform master students about the activities of the laboratories.

The members of the unit also contribute to the formation of young researchers through their participations to numerous specialized national or international schools. One member of the unit is director of Ecole de Physique des Houches.

Assessment of the five-year plan and strategy

The LPTHE has proven its ability to adjust to a rapidly changing environment. It has undergone over the last decade a considerable and very positive transformation. A major issue that will have to be faced in the near future is the large number of retirements, which will affect strongly some of the activities of the unit. The next director is well aware of the challenges facing him. Priorities for new hiring have been established. The committee supports these priorities.

Note: In reading the team-by-team analysis that follows, one should take into account that these teams do not represent autonomous administrative entities. The boundaries are often artificial and extremely permeable. The analysis should therefore be read as a compromise between the “team-by-team” and the “theme-by-theme” analysis suggested in the template. Thus the main conclusions and recommendations that are contained in this report concern the unit as a whole, and are not repeated systematically in the pages that follow.

4 • Team-by-team analysis

Team 1 : Mathematical Physics

Name of team leader: Mr. Jean-Bernard ZUBER

Workforce

Team workforce	Number as at 30/06/2012	Number as at 01/01/2014	2014-2018 Number of project producers
N1: Permanent professors and similar positions	2	2	2
N2: Permanent EPST or EPIC researchers and similar positions	6	7	7
N3: Other permanent staff (without research duties)			
N4: Other professors (PREM, ECC, etc.)			
N5: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.)	2	2	
N6: Other contractual staff (without research duties)			
TOTAL N1 to N6	10	11	

Team workforce	Number as at 01/10/2012	Number as at 01/01/2014
Doctoral students	3	
Theses defended	4	
Postdoctoral students having spent at least 12 months in the unit	4	
Number of Research Supervisor Qualifications (HDR) taken	1	
Qualified research supervisors (with an HDR) or similar positions	7	7

• Detailed assessments

The Mathematical Physics Group within LPTHE has a long tradition. The activity of the Group stemmed from the interest of LPTHE in fundamental problems of Quantum Field Theory and High Energy Physics. Over the last decades, the Laboratory has turned into one of the main centers of expertise on integrability, originally an approach to very specific models of statistical mechanics and field theory that, in the meantime, has broadened extraordinarily its scope of applications. Today, integrability techniques permeate practically all branches of physics, from condensed matter and atomic physics to string theory, particle physics and relativity. They also increasingly influence mathematics. In the period of the last five years, the activity of the Mathematical Physics Group at LPTHE has been, on the one hand, a fruitful continuation of the research conducted in the previous periods, and, on the other hand, it has opened novel directions represented by new members of the group.

In the first category one should mention the cutting-edge long term effort to extend the integrability methods to correlation functions of quantum integrable models, with pioneering new developments, obtained in collaboration with Japanese teams, that unravelled hidden fermionic structures in integrable massive and massless models. The existing know-how of the group was also successfully applied to the analysis of models of atomic physics in a joint research with the members of the Condensed-Matter-Statistical-Physics Group, one of the many examples of transversal activities within the Laboratory. Other themes represented already in the past include the original search for integrable dynamical systems based on the notion of algebraic entropy that has attracted interest of mathematicians, a study of the perturbative structure of field theories (with a new twist based on application of Hopf-algebraic methods to extract high-order information) and the work on integrable geodesic flows in general relativity.

The newly opened directions of research in the Mathematical Physics Group were based on the recent-year arrivals and recruitments in the laboratory but were not unrelated to the highest-level competence in the matrix models and conformal field theory already present and actively developed in the Group, and, more generally, in LPTHE. They concern the applications of integrability techniques to enumerative combinatorial problems that already allowed very major advances in the latter field and to the statistical models with non-compact and super-group symmetries. These new directions in the studies of integrability promise to be rich in applications both to mathematical questions and to disordered and condensed matter systems and, last but not least, to string theory. They may provide the seed for the future transformation that will be imposed on the group by the wave of retirements in the coming years.

In summary, the research of the Group has been pertained on the highest level. It did received an international and national recognition, as witnessed by the attribution of one junior ERC, one ANR and two MRNT grants, and by the invitations of members of the Group as visiting professors or visiting fellows at leading foreign centers. The Group has attracted 5 foreign postdoctoral fellows and 7 PhD students during the last five years. It has been involved in teaching at UPMC and widely implied in the supervision of student internships (23), principally on the Master level. Through FRIF, directed by one of its members, and transversal seminars, the Group had also impact on a wider Parisian scientific environment.

The project of the Mathematical Physics Group for the five years is based on the main directions of research that were described above. In the domain of correlation functions, it foresees an extension of the fermionic representations to more general operators and other integrable models, which certainly constitutes an ambitious long-term goal. In the application of integrability to combinatorial question, the project aims at the development of relations to algebraic geometry that have appeared in the context of the integrable models considered previously. The introduction of discrete lattice versions of non-compact and logarithmic conformal field theories offers a possibility to access such theories through a deeper study of their lattice variants. The application of such approach to the quantum Hall systems constitutes a further part of the project that comprises also the continued study of the algebraic entropy of dynamical systems and of the algebraic structure behind the renormalization of field theories. The project reflects the fact that many ambitious theoretical endeavors require time, and new developments are (fortunately) not totally predictable. The latter concerns also the future recruitment in the Group, that should substitute for the upcoming departures, as it will depend much on the CNRS recruiting. Nevertheless, the Group should be encouraged to take an active role in projecting its future development in coherence with that of the rest of the Laboratory.

Team 2 : Strings, Branes and Fields.

Name of team leader: Mr Atish DABHOLKAR

Workforce

Team workforce	Number as at 30/06/2012	Number as at 01/01/2014	2014-2018 Number of project producers
N1: Permanent professors and similar positions	3	3	3
N2: Permanent EPST or EPIC researchers and similar positions	4	4	4
N3: Other permanent staff (without research duties)			
N4: Other professors (PREM, ECC, etc.)			
N5: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.)	2		
N6: Other contractual staff (without research duties)			
TOTAL N1 to N6	9	7	

Team workforce	Number as at 01/10/2012	Number as at 01/01/2014
Doctoral students	6	
Theses defended	6	
Postdoctoral students having spent at least 12 months in the unit	6	
Number of Research Supervisor Qualifications (HDR) taken		
Qualified research supervisors (with an HDR) or similar positions	5	5

• Detailed assessments

The group is one of the leading groups in Europe in String theory, at least in its most structural aspects. Some of the results obtained in the last few years by members of the group are here to stay, independently of whether String Theory eventually turns out to be the theory of Quantum Gravity and of future developments in high energy physics. An example of such results concerns the understanding of Black Hole entropy and general thermodynamic properties of generic theories of Quantum Gravity. Another example has to do with the structure of certain large classes of gauge theories in four-dimensions. There are general results about wall-crossing, non-perturbative structures, phase diagrams. There is also very important work in the study of the structure of AdS/CFT from the supergravity point of view, the classification of possible string backgrounds, their importance in Particle Physics and Cosmology. All these results are deep and important, and are published in the best journals in the field.

The quality of the scientific activities of the group is attested by the awards received by some of its members. The young members of the group have already gotten important distinctions. The hiring, over the period, of a junior faculty from a major foreign institution is also a proof that the group is very attractive. It is also to be noted that some members of the group have got important faculty offers in major institutions throughout the world.

The group is small but quite dynamical, with a smooth organization. The principal investigators have clear research programs. The symbiosis and complementarity in the group are exemplary.

Looking at the proposal for the next five years, it is clear that the research lines are well delineated, with enough flexibility to steer in different directions depending on how the subject develops. The group is very strong, with a clear vision of its future and the importance of its research projects.

The only possible threat may come from not having enough young people (students/postdocs) to be part of the group and to pass the know-how.

Team 3 : Statistical and Condensed Matter Physics

Name of team leader: Mr Benoît DOUÇOT

Workforce

Team workforce	Number as at 30/06/2012	Number as at 01/01/2014	2014-2018 Number of project producers
N1: Permanent professors and similar positions	5	4	4
N2: Permanent EPST or EPIC researchers and similar positions	3	4	4
N3: Other permanent staff (without research duties)			
N4: Other professors (PREM, ECC, etc.)			
N5: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.)	1		
N6: Other contractual staff (without research duties)			
TOTAL N1 to N6	9	8	

Team workforce	Number as at 30/06/2012	Number as at 01/01/2014
Doctoral students	4	
Theses defended	5	
Postdoctoral students having spent at least 12 months in the unit	7	
Number of Research Supervisor Qualifications (HDR) taken		
Qualified research supervisors (with an HDR) or similar positions	6	5

• Detailed assessments

The members of the group have research interests ranging from aspects of soft matter and chemical biophysics to solid state physics. They publish in leading international refereed journals (including several Physical Review Letters, a Nature Physics and a Physics Reports). This high level of scientific activity is all the more remarkable given the number of UPMC academic staff in the group and their consequent heavy teaching loads and administrative responsibilities. The team has long standing reputations as having leaders in the fields of conformal field theories, glassy systems, quantum dynamics out of equilibrium, condensed matter theory in the context of computation, noise in superconducting circuits and low dimensional electronic systems.

The condensed matter theory side has been reinforced at both senior and junior levels, in particular the senior recruitment was something of a first for the CNRS in physics. A number of the group researchers have interests spanning most areas of this research activity and the potential for future collaborations and development within the group, and with other groups, is enormous. As well as the impact of the work produced by the group, the technical quality of the methods employed and results obtained must be highlighted. Very few groups around the world can match the field theoretic competences that this group displays in statistical and condensed matter physics. Despite the theoretical excellence of the team it should also be noted that there are healthy collaborations with experimentalists and much effort has clearly been made to confront their results with experiments. It should also be noted that the group does not content itself to remain within their established fields and over the evaluation period there is a clear effort to diversify and investigate new and developing fields.

The overall quality of the work is appreciated at an international level and certain of the team established members are clearly recognized as being prominent scientists in their fields. The more junior members of the team are establishing themselves and developing their own research programs which are starting to produce promising results.

The reputation of the group is attested to by a number of academic distinctions, including IUF nomination and a prize of the French Academy of Sciences. The scientific standing of the group members and their original research ideas has led to the award of 3 ANR grants over the reporting period, plus numerous other sources of funding for national and international cooperations. Indeed the group members have several international collaborations with researchers in Argentina, Italy, Germany and Japan. Member of the group are regularly invited as speakers at international conferences. The group members have participated as editors of leading physics journals and also have been organizers of a number of prestigious international conferences as well as filling administrative roles, for instance for the direction of Les Houches Doctoral School and at the level of national and international recruitment committees.

During the reporting period the group has directed the PhD of 9 students and also supervised research projects for over 20 undergraduate students. These students benefit from an active scientific environment based around a successful weekly seminar which is held jointly with the mathematical physics group. The group is run in an efficient, informal and collegial manner.

The strengths of the group are clearly its academic reputation and the healthy distribution of ages with senior well known scientists (who are however relatively young) and younger scientists who have promising academic futures ahead of them and who are developing independent but complementary research directions. There may be a sentiment that among the research groups composing the laboratory this group will be least affected by retirements and thus they may naturally appear as less of a priority for recruitment. However they clearly have new ideas and directions that could be supported by recruitment, for instance in the area of topological insulators.

Arguments for reinforcing the team include the inevitable impact that becoming the director of the laboratory will have on one of their members available research time, and the relatively high proportion of UPMC staff.

Team 4 : Particle Physics and Cosmology

Name of team leader: Mr Yuri DOKSHITZER

Workforce

Team workforce	Number as at 30/06/2012	Number as at 01/01/2014	2014-2018 Number of project producers
N1: Permanent professors and similar positions	1	1	1
N2: Permanent EPST or EPIC researchers and similar positions	6	6	6
N3: Other permanent staff (without research duties)			
N4: Other professors (PREM, ECC, etc.)			
N5: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.)	1		
N6: Other contractual staff (without research duties)			
TOTAL N1 to N6	8	7	

Team workforce	Number as at 01/10/2012	Number as at 01/01/2014
Doctoral students	2	
Theses defended	5	
Postdoctoral students having spent at least 12 months in the unit	5	
Number of Research Supervisor Qualifications (HDR) taken	1	
Qualified research supervisors (with an HDR) or similar positions	6	7

• Detailed assessments

In the years 2007-12 the group has produced important results in a range of domains that span from the Standard Model and its extensions, to Grand Unification and cosmology.

One formidable achievement has been the formulation and the development of new methods in jet physics, with infrared safe and fast algorithms for both sequential clustering and cone algorithms. These algorithms for defining and measuring jets are both theoretically sound and extremely efficient in practice and are widely available via the FastJet computer package, which has been found to be much faster than previous jet finders. These algorithms, in particular the anti-kT iterative procedure is optimally adapted to the high multiplicity environment of the LHC and is at present universally adopted by the experimental collaborations at the LHC.

Another area where the contribution of the QCD group has been traditionally very recognised and productive is on the theory of heavy flavour production at hadron colliders.

It is important to emphasize the presence of the group also in areas of particular present interest like, on the more theoretical side, the study of N=4 SUSY Yang Mills theories, or, in the phenomenological domain, of multiparton processes at hadron colliders that start now to be experimentally studied at the LHC.

The hirings realized have considerably enlarged the domain of excellence of the group, in particular in the direction of electroweak interactions in the Standard Model and its Supersymmetric (SUSY) extensions. Very important and recognised results have been obtained in this area by the calculation of SUSY corrections to LHC cross sections and decay rates, for example for Higgs production via gluon fusion and for radiative B decay.

The activity of the group in the domain between string theory and the physics beyond the Standard Model has also been very continuous and relevant, in particular by works on theoretical aspects of Supersymmetric models and on Grand Unified theories.

The expertise present in the group and the scientific output in astrophysics and cosmology is internationally recognised. Recently the attention of the group has been concentrated on the possible identification of the Dark Matter in the Universe with a particle of mass of order keV.

The Committee recommends the recruitment of at least two theorists working on the area of LHC physics, in the Standard Model and beyond, ideally one senior and at least one junior appointment, who can maintain the very high level of the present group.

5 • Conduct of the visit

Visit dates:	13 and 14 December, 2012
Start:	"Thursday, 13, december, 2012", at "9h00"
End:	"Friday, 14, december, 2012", at "12h30"
Visit site(s):	LPTHE, Jussieu
Institution:	UPMC
Address (no. street town):	Tour 13-14, 4ème étage, 4 place Jussieu, 75252 Paris
Specific premises visited:	Laboratory LPTHE.

Conduct or programme of visit:

Thursday, Dec. 13th

9h00-9h30	Closed session
9h30-12h00	Plenary session
9h30-10h15	Report (Director)
10h15-10h30	Break
10h30-12h30	Scientific presentations (4x30 mn)
12h30-14h00	Lunch Break
14h00-16h00	Discussion in closed session with each theme members.(4x30mn)
16h30-17h00	Meet non permanent personnel (Postdocs, PhD Students)
17h00-17h30	Meet administrative team.
17h30-18h00	Meet Director.

Friday, Dec 14th

9h00-9h30	Project (Director elected)
9h30-10h00	Meet Director FRIF.
10h00-10h30	Meet «Tutelles» representatives
10h30-12h30	Committee closed session (Report drafting)

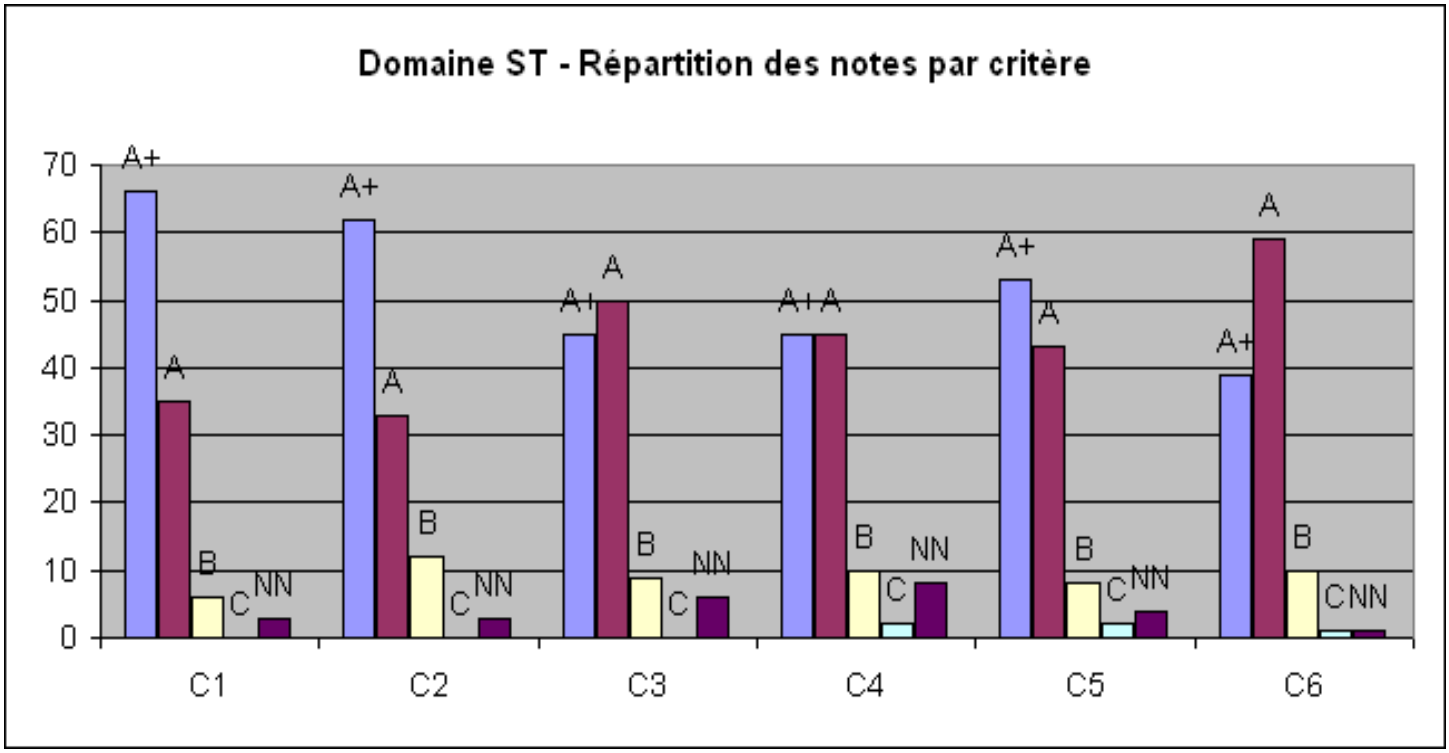
6 • Statistics

Grading tables and percentage per field

Critères	C1 Qualité scientifique et production	C2 Rayonnement et attractivité académiques	C3 Relations avec l'environnement social, économique et culturel	C4 Organisation et vie de l'entité	C5 Implication dans la formation par la recherche	C6 Stratégie et projet à cinq ans
A+	66	62	45	45	53	39
A	35	33	50	45	43	59
B	6	12	9	10	8	10
C	0	0	0	2	2	1
Non Noté	3	3	6	8	4	1

Critères	C1 Qualité scientifique et production	C2 Rayonnement et attractivité académiques	C3 Relations avec l'environnement social, économique et culturel	C4 Organisation et vie de l'entité	C5 Implication dans la formation par la recherche	C6 Stratégie et projet à cinq ans
A+	60%	56%	41%	41%	48%	35%
A	32%	30%	45%	41%	39%	54%
B	5%	11%	8%	9%	7%	9%
C	0%	0%	0%	2%	2%	1%
Non Noté	3%	3%	5%	7%	4%	1%

Histogram



7 • Supervising bodies' general comments

Paris le 11 04 2013

Le Président
Didier Houssin
Agence d'évaluation de la recherche
et de l'enseignement supérieur
20 rue Vivienne - 75002 PARIS

M. le Président,

Nous avons pris connaissance avec le plus grand intérêt de votre rapport concernant le projet du Laboratoire de Physique Théorique et Hautes Energies, porté par M. Douçot. Nous tenons à remercier l'AERES et le comité pour l'efficacité et la qualité du travail d'analyse qui a été conduit.

Ce rapport a été transmis au directeur du laboratoire. Nous prenons acte des recommandations qui ont été formulées et qui n'appellent aucun commentaire particulier de notre part.

Restant à votre disposition pour de plus amples informations, je vous prie de croire, M. le Président, à l'expression de mes salutations respectueuses.

Le Vice -Président Recherche et Innovation

Paul Indelicato

Vice-présidence Recherche et Innovation
Tél. 01 44 27 20 09
www.upmc.fr