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No
Reviewer
Co-reviewer

www.snf.ch

Wildhainweg 3, Postfach 8232, CH-3001 Bern

Application form mySNF

Instrument: Mathematics, Natural sciences and Engineering (Division II)

Part 1: General Information

Basic data

Project Title Maintenance and Operation for the LHC experiments at CERN

Project title in English Maintenance and Operation for the LHC experiments at CERN

Research Field Mathematics, natural sciences

Main Discipline 20403 Particle Physics

Applicant(s)

Main Applicant	Ulrich Straumann
Other Applicant(s)	Olivier Schneider Allan Clark Aurelio Bay Felicitas Pauss Günther Dissertori Antonio Ereditato Tatsuya Nakada Urs Langenegger Claude Amsler Alain Blondel Martin Pohl

Grant Application

Amount requested (CHF)	Total	859'000
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Related to project no.	206620-120262
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Continuation foreseen	Yes
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Requested starting date	01.04.2009
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Duration (months)	12
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Attachments

Research plan	SciencePart_UStraumann.pdf
Curriculum vitae	CV_Straumann.pdf
Publication List	Publist_Straumann.pdf
Cover letter	fristverlaengerung_MandO.pdf
Other annexes	fristverlaengerung_MandO.pdf

Documents sent by surface mail

1. Responsible applicant

Surname	Straumann
First name	Ulrich
Function (title)	Professor
Academic degree	Prof.
Date of birth	22.06.1953
Social security number	866.53.284.111
Social security number	
Gender	männlich
Civil Status	verheiratet
Correspondence language	Deutsch
Nationality	Schweiz
Correspondence address of application	Address of workplace

Direct Address

Address supplement	
Street, No.	Zanggerweg 10
P.O. Box	
Postcode / Zipcode	8006
Place	Zürich
Country	Schweiz

Address of institute

Name of Institution 1 (e.g. laboratory)	
Continuation 1 (e.g. inst / dept.)	Physik-Institut
Continuation 2 (e.g. University)	Universität Zürich-Irchel
Street, No.	Winterthurerstr. 190
Address supplement (e.g. building)	
Address supplement (e.g. office)	
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Country	Schweiz

Communication

Secretariat line	+41 44 635 57 22
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Website	
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2. Other applicant(s)

General information

Surname	Schneider
First name	Olivier
Function (title)	PhD
Academic degree	Prof.
Date of birth	21.05.1961
Social security number	826.61.252.118
Social security number	
Gender	male
Civil Status	Unknown
Correspondence language	French
Nationality	Switzerland
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	Laboratoire de Physique
Continuation 1 (e.g. inst /dept.)	des Hautes Energies - LPHE
Continuation 2 (e.g. University)	SB-IPEP, EPFL
Street, No.	BSP 623
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Address supplement (e.g. office)	
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Place	Lausanne
Country	Switzerland

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Website	
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General information

Surname	Clark
First name	Allan
Function (title)	Professor
Academic degree	Dr.
Date of birth	03.01.1947
Social security number	266.47.103.153
Social security number	
Gender	male
Civil Status	Unknown
Correspondence language	English
Nationality	Australia
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	S�ection de physique
Continuation 1 (e.g. inst /dept.)	D�partement de physique nuc. et corp.
Continuation 2 (e.g. University)	Universit� de Gen�ve
Street, No.	24, Quai Ernest-Ansermet
Address supplement (e.g. building)	
Address supplement (e.g. office)	
P.O. Box	
Postcode / Zipcode	1211
Place	Gen�ve 4
Country	Switzerland

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General information

Surname	Bay
First name	Aurelio
Function (title)	Professor; Director of Laboratory
Academic degree	Dr.
Date of birth	18.04.1955
Social security number	149.55.218.117
Social security number	
Gender	male
Civil Status	Unknown
Correspondence language	English
Nationality	Switzerland
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	Lab. de physique des Hautes Energies - LPHE
Continuation 1 (e.g. inst /dept.)	SB-IPEP
Continuation 2 (e.g. University)	EPFL
Street, No.	BSP 616
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General information

Surname	Pauss
First name	Felicitas
Function (title)	LHP Project Manager for CMS and MAGIC Experiments
Academic degree	Prof. Dr.
Date of birth	26.03.1951
Social security number	704.51.588.352
Social security number	
Gender	female
Civil Status	Unknown
Correspondence language	German
Nationality	Austria
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	Laboratory for High Energy Physics
Continuation 1 (e.g. inst / dept.)	Institut for Particle Physics
Continuation 2 (e.g. University)	ETH Zürich
Street, No.	Schafmattstr. 20
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Address supplement (e.g. office)	
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Country	Switzerland

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General information

Surname	Dissertori
First name	Günther
Function (title)	LHP Deputy Project Manager for CMS Experiment
Academic degree	Prof. Dr.
Date of birth	24.11.1969
Social security number	287.69.455.355

Social security number	
Gender	male
Civil Status	Unknown
Correspondence language	English
Nationality	Italy
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	Laboratory for High Energy Physics
Continuation 1 (e.g. inst /dept.)	Institute for Particle Physics
Continuation 2 (e.g. University)	ETH Zürich
Street, No.	Schafmattstr. 20
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Address supplement (e.g. office)	
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Country	Switzerland

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General information

Surname	Ereditato
First name	Antonio
Function (title)	Ordinary Professor
Academic degree	Dr.
Date of birth	02.06.1955
Social security number	320.55.264.154
Social security number	
Gender	male
Civil Status	Unknown
Correspondence language	English
Nationality	Italy
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	Laboratorium für Hochenergiephysik (LHEP)
Continuation 1 (e.g. inst /dept.)	Physik-Institut
Continuation 2 (e.g. University)	Universität Bern
Street, No.	Sidlerstr. 5
Address supplement (e.g. building)	
Address supplement (e.g. office)	

office)	
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Postcode / Zipcode	3012
Place	Bern
Country	Switzerland

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Website	
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General information

Surname	Nakada
First name	Tatsuya
Function (title)	Professor
Academic degree	Dr.
Date of birth	22.02.1955
Social security number	676.55.153.184
Social security number	
Gender	male
Civil Status	Unknown
Correspondence language	English
Nationality	Japan
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	Div. PH
Continuation 1 (e.g. inst /dept.)	
Continuation 2 (e.g. University)	CERN
Street, No.	
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Postcode / Zipcode	1211
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Country	Switzerland

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E-mail	tatsuya.nakada@cern.ch

General information

Surname	Langenegger
---------	--------------------

First name	Urs
Function (title)	Assistant Professor
Academic degree	Dr.
Date of birth	14.05.1968
Social security number	578.68.245.117
Social security number	
Gender	male
Civil Status	Unknown
Correspondence language	German
Nationality	Switzerland
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	
Continuation 1 (e.g. inst /dept.)	Institut for Particle Physics
Continuation 2 (e.g. University)	ETH Zürich
Street, No.	Schafmattstr. 20
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Address supplement (e.g. office)	
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Country	Switzerland

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Cellphone	
Website	
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General information

Surname	Amsler
First name	Claude
Function (title)	Professor
Academic degree	Dr.
Date of birth	21.07.1947
Social security number	114.47.321.116
Social security number	
Gender	male
Civil Status	Married
Correspondence language	French
Nationality	Switzerland
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	Physik-Institut
Continuation 1 (e.g. inst /dept.)	University of Zurich
Continuation 2 (e.g.	

University)	
Street, No.	Winterthurerstr. 190
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Address supplement (e.g. office)	
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Place	Zurich
Country	Switzerland

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General information

Surname	Blondel
First name	Alain
Function (title)	Professor
Academic degree	Dr.
Date of birth	26.03.1953
Social security number	178.53.188.000
Social security number	
Gender	male
Civil Status	Unknown
Correspondence language	French
Nationality	France
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	DPNC
Continuation 1 (e.g. inst /dept.)	Section de Physique
Continuation 2 (e.g. University)	Université de Genève
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Website	
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General information

Surname	Pohl
First name	Martin
Function (title)	Professor
Academic degree	Dr.
Date of birth	18.09.1951
Social security number	720.51.380.151
Social security number	
Gender	male
Civil Status	Unknown
Correspondence language	German
Nationality	Germany
Address(es)	Enter my own working address

Address of institute

Name of Institution 1 (e.g. laboratory)	Institut of Physics
Continuation 1 (e.g. inst /dept.)	University of Geneva
Continuation 2 (e.g. University)	
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3. Basic data I

Original project title	Maintenance and Operation for the LHC experiments at CERN
Project title in English	Maintenance and Operation for the LHC experiments at CERN
Requested starting date	01.04.2009
Duration (months)	12
Research field	Mathematics, natural sciences
Main discipline	20403 Particle Physics

4. Basic data II

Summary	<p>The new large hadron collider (LHC) at CERN will start its operation in spring 2009, colliding protons with a centre of mass energy of 14 TeV.</p> <p>In an enormous effort over more than 15 years the world-wide particle physicist community has designed, developed, constructed and installed four detectors, in order to exploit the physics at the TeV scale, which will shed light on the nature of electro-weak symmetry breaking and where supersymmetric particles or extra spacial dimensions may be discovered. Switzerland significantly contributed to three of those experiments.</p> <p>CERN in his role as the host laboratory of the LHC accelerator supports also the experiments designed to measure the reaction products at the interaction regions of LHC. However, CERN requests the funding agencies involved in the detector investments to contribute to the daily running and maintenance expenses. In addition each institute, which has contributed to sub-detectors or to other components of an experiment is expected to provide the necessary scientific and technical manpower to operate that component and maintain it in good working order for the whole lifetime of the experiment of about 10 years.</p> <p>This document summarises the Swiss contributions to the three LHC detector's design, construction, commissioning and operation. It explains CERN's concept of maintenance and operation and gives an overview of the expected costs, which Switzerland is supposed to contribute.</p>
Keywords	LHC Experiments ATLAS, CMS, LHCb Higgs Supersymmetry CP Violation new physics standard model
Language of correspondence	German
Financial administration	Finanzabteilung der Universität Zürich

5. Directly related to other research projects

Application	206620-120262 2: FORCE 2008: Maintenance and operation for the LHC experiments at CERN
Remarks	Follow-on proposal
Continuation foreseen?	Yes

6. Indirectly related to other research projects

Application	206620-119844 1: FORCE: Construction of the LHCb experiment
Type of relationship	The same scientific purpose
Application	200020-116525 3: Experimentelle Teilchenphysik bei HERA und LHC
Type of relationship	The same scientific purpose

7. University and institutional statement

University or college	Universität Zürich - ZH
Remarks	
Institutional declaration (FC)	Forschungskommission ZH
Remarks	

8. Collaboration (national and international)

Research group/institution	400 institutions from all over the world
Country	Switzerland
Context	CERN Universities of Berne, Geneves, Zurich ETHZ EPFL PSI

9. Information on available funds

Do you have other funds at your disposal?	Yes
Personnel and staff available	0
Available equipment	0
Amount allocated for apparatus, consumables, travelling expenses and other expenditure	2009: ATLAS: Cat. A 161 Cat. B: Silicon strip tracking (SCT) 57 Cat. B: Liq. Argon Calo. (LAr) 9 Cat. B: Inner detector (IDGEN) 45 272'000 CHF CMS: Cat. A 233 Cat. B: Pixel tracking 92 Cat. B: E.m. calorimeter (ECAL) 73 398'000 CHF LHCb: Cat. A 106 Cat. B: Vertex locator (VELO) 40 Cat. B: Silicon tracking (ST) 43 189'000 CHF Total 859'000 CHF This table represents the total Swiss share of the costs estimated by CERN and the collaborations for M&O in the year 2008 (see the scientific section for explanations).
Infrastructure	0
Support requested from other sources	- LHCb FORCE: Construction of the LHCb experiment: 250'000 CHF - Experimentelle Teilchenphysik bei HERA und LHC: 1'808'630 CHF (36 Mte)

10. Requested positions, salaries and social security contributions

Overview positions (full time equivalents)

Allotment	Total %	Year 1
Academics		
Doctoral students		
Technician		
Assistant		
Total %	0	0

Details

Last name	Nationality	Academic degree	Function	Salary class	Salary others, 1st year	Salary SNF, 1st year
First name	Gender	Since	Employment as a percentage (%)	Since	2nd year	2nd year
Date of birth	Number of children	Doctoral cand. since	Paid by SNF	Type of position	3rd year	3rd year
Subprojekt					4th year	4th year
					5th year	5th year

Total positions CHF

Allotment	
Academics	
Doctoral students	
Technician	
Assistant	
Total CHF	

11. Requested Funding

Budget per year (overview)

Project

Allotment	Total SNSF (CHF)	Year 1
Scientific equipment and components		
Consumables and Maintenance	859'000	859'000
Travel, field expenses		
Other costs		
Salaries		
Social security contributions		
Total SNSF (CHF)	859'000	859'000
Total SNSF (CHF)	859'000	859'000

Budget per year (detail)

Values in brackets represent items requested from other sources than SNF

Subproject A

	Total SNSF (CHF)	Year 1
Project		
Consumables and Maintenance		
ATLAS	272'000	272'000
Total SNSF (CHF)	272'000	272'000

Subproject B

	Total SNSF (CHF)	Year 1
Project		
Consumables and Maintenance		
CMS	398'000	398'000
Total SNSF (CHF)	398'000	398'000

Subproject C

	Total SNSF (CHF)	Year 1
Project		
Consumables and Maintenance		
LHCb	189'000	189'000
Total SNSF (CHF)	189'000	189'000

12. Research requiring authorisation or notification

Research on humans	<input type="text" value="No"/>
Research on human embryonic stem cells	<input type="text" value="No"/>
Research on animals	<input type="text" value="No"/>
Research on GMO or pathogens	<input type="text" value="No"/>
Relevant regulations (see help text) noted and accepted	<input type="text" value="Yes"/>

13. General remarks to the project

Abbreviated designation	<input type="text" value="LHC experiments maintenance and operation"/>
Communication	<input type="text" value="The final numbers and the scientific text will be added to the request until Nov. 24, 2008"/>
Confidential	<input type="text" value="No"/>