

Purchase Contract

(hereafter the "Contract")

1. CONTRACTUAL PARTIES

1.1 Fyzikální ústav AV ČR, v. v. i.,

with seat: Na Slovance 1999/2, 182 21 Praha 8, represented by: RNDr. Michael Prouza, Ph.D., Director, registered in the Register of public research institutions of the Ministry of Education, Youth and Sports of the Czech Republic.



(the Buyer and the Seller are hereinafter jointly referred to as the "**Parties**" and each of them individually as a "**Party**").

2. FUNDAMENTAL PROVISIONS

- 2.1 The Buyer is a public research institution whose primary activity is scientific research in the area of physics, especially elementary particles physics, condensed systems, plasma and optics.
- 2.2 The Buyer wishes to acquire the subject of performance hereof in order to ensure that he will be able to measure the cloud height and aerosol backscatter profiles.
- 2.3 The documentation necessary for the execution of the subject of performance hereof consist of
 - 2.3.1 Technical specifications of the subject of performance hereof attached as **Annex No. 1** hereto.
 - 2.3.2 The Seller's Quotation which forms **Annex No. 2** hereto.

In the event of a conflict between the Contract's Annexes the technical specification / requirement of the higher level / quality shall prevail.

- 2.4 The Seller declares that he has all the professional prerequisites required for the supply of the subject of performance under this Contract, is authorised to supply the subject of performance and there exist no obstacles on the part of the Seller that would prevent him from supplying the subject of this Contract to the Buyer.
- 2.5 The Seller acknowledges that the Buyer considers him capable of providing performance under the Contract with such knowledge, diligence and care that is associated and expected of the Seller's profession, and that the Seller's potential performance lacking such professional care would give rise to corresponding liability on the Seller's part. The Seller is prohibited from misusing his qualities as the expert or his economic position in order to create or exploit dependency of the weaker Party or to establish an unjustified imbalance in the mutual rights and obligation of the Parties.
- 2.6 The Seller acknowledges that the Buyer is not in connection to the subject of this Contract an entrepreneur and also that the subject of this Contract is not related to any business activities of the Buyer.
- 2.7 The Seller acknowledges that the production and delivery of the subject of performance within the specified time and of the specified quality, as shown in Annexes No. 1 and 2 of this Contract (including invoicing), is essential for the Buyer.
- 2.8 The Parties declare that they shall maintain confidentiality with respect to all facts and information, which they learn in connection herewith and / or during performance hereunder, and whose disclosure could cause damage to either Party. Confidentiality provisions do not prejudice obligations arising from valid legislation.

3. <u>SUBJECT-MATTER OF THE CONTRACT</u>

3.1 The subject of this Contract is the obligation on the part of the Seller to deliver and transfer into the Buyer's ownership:

Ceilometer Lufft CHM 15k NIMBUS (8350.00) CHM-Viewer Software f. CHM (8350.SW) CHM Simulator (8350.SIMC) (hereafter the "**Equipment**") and the Buyer undertakes to take delivery of the Equipment and to pay to the Seller the agreed upon price.

- 3.2 The following activities form an integral part of the performance to be provided by the Seller:
 - 3.2.1 Transport of the Equipment incl. all accessories specified in Annexes 1 and 2 of the Contract to the place of delivery,
 - 3.2.2 Telephone or email assistance with the installation of the Equipment at the site,
 - 3.2.3 Delivery of instructions and operating and repair manuals to the Equipment in Czech or English language to the Buyer, in electronic and hardcopy (printed) versions,
 - 3.2.4 Free-of-charge warranty service in accordance with Seller's warranty policy,
 - 3.2.5 Ensuring out-of-warranty and post-warranty service in accordance with Seller's warranty policy and considering product lifecycle,
 - 3.2.6 Provision of technical support in the form of consultations.
- 3.3 The subject of performance (Equipment) is specified in detail in Annexes No. 1 and No. 2 hereto.
- 3.4 The Seller shall be liable for the Equipment and related services to be in full compliance with this Contract, its Annexes and all valid legal regulation, technical and quality standards communicated by Buyer and that the Buyer will be able to use the Equipment for the defined purpose.
- 3.5 The delivered Equipment and all its parts and accessories must be new and unused.

4. <u>PERFORMANCE PERIOD</u>

- 4.1 The Seller undertakes to manufacture and deliver the Equipment to the address specified in Section 7.1 hereof within 35 days of the conclusion of this Contract.
- 4.2 The performance period shall be extended for a period during which the Seller could not perform due to obstacles on the part of the Buyer.

5. <u>PURCHASE PRICE, INVOICING, PAYMENTS</u>

- 5.1 The purchase price is based on the Seller's submitted bid and amounts to **36.995,-** € (in words: thirtysix thousand nine hundred and ninety-five Euro) excluding VAT (hereinafter the **"Price"**). VAT shall be paid by the Buyer and settled in accordance with the valid Czech regulation.
- 5.2 The Price represents the maximum binding offer by the Seller and includes any and all performance provided by the Seller in connection with meeting the Buyer's requirements for the proper and complete delivery of the Equipment hereunder, as well as all costs that the Seller may incur in connection with the delivery, and including all other costs of expenses that may arise in connection with creation of an intellectual property creation and its protection.
- 5.3 The Parties agreed that the Price shall be invoiced after the acceptance protocol in accordance with

Section 9.5 will have been signed. In case the Equipment will be delivered with minor defects and / or unfinished work, the Price will be invoiced after removal of these minor defects and / or unfinished work.

- 5.4 The invoice issued by the Seller as a tax document must contain in particular following information:
 - 5.4.1 name and registered office of the Buyer,
 - 5.4.2 tax identification number of the Buyer,
 - 5.4.3 name and registered office of the Seller,
 - 5.4.4 tax identification number of the Seller,
 - 5.4.5 registration number of the tax document,
 - 5.4.6 scope of the performance (including the reference to this Contract),
 - 5.4.7 the date of the issue of the tax document,
 - 5.4.8 the date of the fulfilment of the Contract,
 - 5.4.9 purchase Price,
 - 5.4.10 registration number of this Contract, which the Buyer shall communicate to the Seller based on Seller's request before the issuance of the invoice

and must comply with the double taxation agreements, if applicable.

- 5.5 The Buyer prefers electronic invoicing, with the invoices being delivered to <u>efaktury@fzu.cz</u>. All issued invoices shall comply with any international double taxation agreements, if applicable.
- 5.6 Invoices shall be payable within thirty (30) days of the date of their delivery to the Buyer. Payment of the invoiced amount means the date of its remittance to the Seller's account.
- 5.7 If an invoice is not issued in conformity with the payment terms stipulated by the Contract or if it does not comply with the requirements stipulated by law, the Buyer shall be entitled to return the invoice to the Seller as incomplete, or incorrectly issued, for correction or issue of a new invoice, as appropriate, within five (5) business days of the date of its delivery to the Buyer. In such a case, the Buyer shall not be in delay with the payment of the Price or part thereof and the Seller shall issue a corrected invoice with a new and identical maturity period commencing on the date of delivery of the corrected or newly issued invoice to the Buyer.
- 5.8 The Buyer shall be entitled to unilaterally set off any of his payments against any receivables claimed by the Seller due to contractual penalties, if any.

6. <u>OWNERSHIP TITLE</u>

6.1 The ownership right to the Equipment shall pass to the Buyer by acceptance and full payment of the Price. Acceptance shall be understood as delivery and acceptance of the Equipment duly confirmed by the Buyer on the acceptance protocol in accordance with Section 9.5.

7. <u>PLACE OF DELIVERY OF THE EQUIPMENT</u>

7.1 The place of delivery of the Equipment shall be the premises of the Buyer at Na Slovance 1999/2, 182 21 Praha 8, Czech Republic.

8. <u>COOPERATION OF THE PARTIES</u>

8.1 The Seller undertakes to notify the Buyer of any obstacles on his part, which may negatively influence proper and timely delivery of the Equipment.

9. DELIVERY AND ACCEPTANCE

- 9.1 The Seller shall transport the Equipment at its own cost to the place of delivery. If the shipment is intact, the Buyer shall issue delivery note for the Seller.
- 9.2 The Buyer shall verify whether the Equipment is functional and meets the technical requirements of Annexes No. 1 and 2 hereof.
- 9.3 The Buyer undertakes to perform the verification whether the Equipment is functional and meets the technical requirements within 2 weeks of the delivery of the Equipment.
- 9.4 The delivery shall include all technical documentation pertaining to the Equipment, user manuals and certificate of compliance of the Equipment and all its parts and accessories with approved standards.
- 9.5 The procedure shall be completed by acceptance of the Equipment confirmed by the acceptance protocol containing specifications of all performed tests. The protocol shall contain the following information:
 - 9.5.1 Information about the Seller, the Buyer and any subcontractors,
 - 9.5.2 Description of the Equipment including description of all components and serial numbers,
 - 9.5.3 Description of performed tests including achieved parameters,
 - 9.5.4 List of technical documentation including the manuals,
 - 9.5.5 Date and signature of the representative of the Buyer specified in 11.2 hereof.
- 9.6 Acceptance of the Equipment does not release the Seller from liability for defects that were not detected during the acceptance procedure.
- 9.7 The Buyer shall not be obliged to accept Equipment which would show defects or unfinished work and which would otherwise not form a barrier, on their own or in connection with other defects, to using the Equipment. In this case, the Buyer shall issue a record containing the reason for his refusal to accept the Equipment.

10. <u>TECHNICAL ASSISTANCE – CONSULTATIONS</u>

10.1 The Seller shall be obliged to provide to the Buyer free-of-charge technical assistance by phone or email relating to the subject-matter hereof during the entire term of the warranty period. The Seller undertakes to provide to the Buyer paid consultations and technical assistance relating to the subjectmatter hereof also after the warranty period expires, considering product lifecycle.

11. <u>REPRESENTATIVES, NOTICES:</u>

11.1 The Seller authorized the following representatives to communicate with the Buyer in all matters relating to the Equipment delivery:



11.2 The Buyer authorized the following representatives to communicate with the Seller:



- 11.3 All notifications to be made between the Parties hereunder must be made out in writing and delivered to the other Party by hand (with confirmed receipt) or by registered post (to the Buyer's or Seller's address), or in some other form of registered post or electronic delivery incorporating electronic signature (qualified certificate) to epodatelna@fzu.cz in case of the Buyer and to in case of the Seller.
- 11.4 In all technical and expert matters (discussions on the Equipment testing and demonstration, notification of the need to provide warranty or post-warranty service, technical assistance etc.) electronic communication between technical representatives of the Parties will be acceptable using e-mail addresses defined in Sections 11.1 and 11.2.

12. TERMINATION

- 12.1 This Contract may be terminated early by agreement of the Parties or withdrawal from the Contract on the grounds stipulated by law or in the Contract.
- 12.2 The Buyer is entitled to withdraw from the Contract without any penalty from Seller in any of the following events:
 - 12.2.1 The Seller is in delay with the delivery of the Equipment longer than 2 weeks after the date pursuant to Section 4.1 hereof.
 - 12.2.2 Technical parameters or other conditions required in the technical specification defined in Annex No. 1 and 2 hereto and in the relevant valid technical standards will not be achieved by the Equipment at acceptance,
 - 12.2.3 Facts emerge bearing evidence that the Seller will not be able to deliver the Equipment.

- 12.3 The Seller is entitled to withdraw from the Contract in the event of the Buyer being in default with the payment for more than 2 months with the exception of the cases when the Buyer refused an invoice due to defect on the delivered Equipment or due to breach of the Contract by the Seller.
- 12.4 Withdrawal from the Contract becomes effective on the day the written notification to that effect is delivered to the other Party. The Party which had received performance from the other Party prior to such withdrawal shall duly return such performance.

13. INSURANCE

- 13.1 The Seller undertakes to insure the Equipment against all risks, in the amount of the Price of the Equipment for the entire period commencing when transport of the Equipment starts until duly accepted by the Buyer. In case of breach of this obligation, the Seller shall be liable to the Buyer for any damage that may arise.
- 13.2 The Seller is liable for the damage that he has caused. The Seller is also liable for damage caused by third parties undertaken to carry out performance or his part under this Contract.

14. WARRANTY TERMS

- 14.1 The Seller shall provide warranty for the quality of the Equipment for a period of 24 months. The warranty term shall commence on the day following the date of signing of the acceptance protocol pursuant to Section 9.5 hereof. The warranty does not cover consumable things.
- 14.2 Should the Buyer discover a defect, he shall notify the Seller to rectify such defect using the email address:
- 14.3 The Seller shall be obliged to rectify any claimed defects within 30 days from receipt of the Buyer's notification. In cases of unusual defects, the Seller shall be obliged to rectify the defect in the period corresponding to the nature of the defect and to define the deadline for the handover of the rectified Equipment.
- 14.4 During the warranty period any and all costs associated with defect rectification / repair including transport and travel expenses of Seller shall be always borne by the Seller.
- 14.5 The repaired Equipment shall be handed over by the Seller to the Buyer on the basis of a protocol confirming removal of the defect (hereinafter the "**Repair Protocol**") containing confirmations of both Parties that the Equipment was duly repaired and is defect-free.
- 14.6 The repaired portion of the Equipment shall be subject to a new warranty term in accordance with Section 14.1, which commences to run on the day following the date when the Repair Protocol was executed, provided, however, that the aggregate warranty period shall under no circumstances exceed 36 months.
- 14.7 The Seller undertakes to provide the Buyer with updates of the software controlling the Equipment for the entire term of warranty service.

15. <u>CONTRACTUAL PENALTIES</u>

- 15.1 The Buyer shall have the right to a penalty in the amount of 0.1 % of the Price for each commenced day of delay with the performance pursuant to Section 4.1 hereof.
- 15.2 In case of default in payment of any due receivables (monetary debt) under the Contract, the defaulting Buyer or Seller (the debtor) shall be obliged to pay a contractual penalty in the amount of 0.1 % of the owed amount for each commenced day of delay with the payment.
- 15.3 Contractual penalties are payable within 30 days of notification demanding payment thereof.
- 15.4 Payment of the contractual penalty does not prejudice the rights of the Parties to claim damages.
- 15.5 The aggregate of penalties payable by either Buyer or Seller shall not exceed 15 % of the agreed total purchase price.

16. **DISPUTES**

16.1 Any and all disputes arising out of this Contract or the legal relationships connected with the Contract shall be resolved by the Parties by mutual negotiations. In the event that any dispute cannot be resolved by negotiations within sixty (60) days, the dispute shall be resolved by arbitration in accordance with ICC Arbitration rules. Arbitration shall take place in Paris, France and shall be held in the English language. Belgian law shall govern this Contract, its interpretation and resolution of any dispute.

17. FINAL PROVISIONS

- 17.1 In respect of installation of the Equipment, Buyer acknowledges that all installation instructions provided by the Seller must be followed, including however not limited to using a certain angle for placing the Equipment, lest Seller's product warranty will be voided.
- 17.2 This Contract represents the entire agreement between the Buyer and the Seller.
- 17.3 In the event that any of the provisions of this Contract shall later be shown or determined to be invalid, ineffective or unenforceable, then such invalidity, ineffectiveness or unenforceability shall not cause invalidity, ineffectiveness or unenforceability of the Contract as a whole. In such event the Parties undertake without undue delay to subsequently clarify any such provision or replace after mutual agreement such invalid, ineffective or unenforceable provision of the Contract by a new provision, that in the extent permitted by the laws and regulations of the Czech Republic, relates as closely as possible to the intentions of the Parties to the Contract at the time of creation hereof.
- 17.4 This Contract may be changed or supplemented solely by means of numbered amendments in writing, furnished with the details of time and place and signed by duly authorised representatives of the Parties. The Parties expressly reject modifications to the Contract in any other manner.
- 17.5 This Contract is drawn up in three (3) counterparts, each of which is deemed to be the original. The Buyer shall receive two (2) counterparts, the Seller shall receive one (1) counterpart.
- 17.6 The Parties expressly agree that the Contract as a whole, including all attachments and data on the

Parties, subject-matter of the Contract, numerical designation of this Contract, the Price and the date of the Contract conclusion, will be published in accordance with Act No. 340/2015 Coll. on special conditions for the effectiveness of some contracts, publication of these contracts and Contract Register, as amended (hereinafter the "**CRA**"). The Parties hereby declare that all information contained in the Contract and its Annexes are not considered trade secrets under § 504 of the Civil Code and grant permission for their use and disclosure without setting any additional conditions.

- 17.7 The Parties agree that the Buyer shall ensure the publication of the Contract in the Contract Register in accordance with CRA.
- 17.8 This Contract becomes effective as of the day of its publication in the Contract Register.
- 17.9 The following Annexes form an integral part of the Contract:
 - Annex No. 1: Technical specification on the subject of performance
 - Annex No. 2: Seller's Quotation
- 17.10 The Parties, manifesting their consent with the entire contents of this Contract, attach their signature hereunder.

In Prague on 21. 6. 2018

In Fellbach on 13. 6. 2018

For the Buyer:

For the Seller:

RNDr. Michael Prouza, Ph.D. Director Martin Nicklas Managing Director (Geschäftsführer)

Annex No. 1

Technical specification on the Equipment

Technical Data Ceilometer CHM 15k "NIMBUS"



The LIDAR-based cloud height sensor / ceilometer CHM 15k is prepared to work throughout the year and in any climate

Luft CHM 15k

- Parameters measured
 Cloud heights, cloud coverage, height of the mixture layer, boundary layer
- Measurement technology Optical (LIDAR)
- Product highlights Measuring range up to 15 km (50,000 ft), optimized detection of several cloud layers, simple eye-safe operation, service-friendly modular device design, various data telegrams including raw data
- Interfaces RS485, LAN, RS232 oder Modern V.21, V22
- Article number 8350.00, 8350.01 incl. 8350.MOD, 8350.10, 8350.03, 8350.BAT

The Lufft CHM 15k has a double-walled housing combined with integrated fan and automatic heating system. Thus it provides reliable protection against misting, precipitation, freezing or overheating.

Exact results due to high sensitivity!

Reliable and accurate results at any time of the day or night are ensured by the use of longlife laser sources, filters with narrow bandwidth and high-sensitivity photodetectors.



Technical modifications and errors excepted - Created 22/05/2018 G. Lufft Mess- und Regeltechnik GmbH Fellbach, Deutschland



Technical Data

Ceilometer CHM 15k "NIMBUS"



General		
Dimensions	500 x 500 x 1550 mm	
Weight	70 kg (130 kg incL packaging)	
Temperature range	-40+50 °C	
Relative humidity	0100 %	
Wind	55 ms^-1	
wind	oo msr-1	
Interfaces		
Standard interface		
	RS485, LAN RS232 or Modern V.21, V22, V.22bis	
Optional interface	LAN Port: Web - Interface	
Communication		
	Serial Port: DataClient Software or standard terminal programs	
Optional software	Viewer - Software for convenient visualizing measured results	
Electrical parameters		
Power supply	230 VAC, ±10 %	
Power consumption	250 W (Standard)	
	800 W (in maximum heating mode)	
UPS functionality (opt.)	Internal backup battery for electronics, >1 hrs	
Operating safety		
Environmental conditions	ISO 10109 - 11	
Laser protection class	1M, DIN EN 60825 - 1:2007	
Protection level housing	IP65	
EMV	EN 61326 - 1	
Electrical safety	DIN EN 61010 - 1	
Certifications	CE	
Cloud height / aerosol profiles /		
visibility		
Measuring principle	optical (LIDAR)	
Measuring range (Cloud base	5 m 15.000 m (16 ft 50.000 ft)	
height)		
Accuracy (measured on hard	±5 m (±16 ft)	
target in 10 km distance)		
Measurement resolution	5 m (16 ft)	
Sampling rate	100 MHz	
NetCDF raw data resolution	15 m (full range, compact file sizes); 5 m (5 m to 150 m range)	
Measurement time	2 s 600 s (wählbar)	
Targets	Aerosols, clouds	
Quantities to be measured	· · · · · · · · · · · · · · · · · · ·	
	depth; Cloud amount and sky condition index; Vertical visibility	
	(VOR); Height of aerosol layer; Aerosol backscatter profiles;	
Light source	Nd:YAG solid - state laser, wavelength 1064 nm	

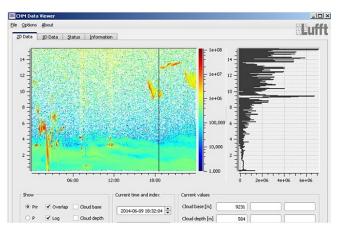
Page 2

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CHM Data Viewer - software



The CHM Data Viewer is a special visualization software with an easy to use interface. The software allows a representation of the data, which are measured with the Laserceilometer CHM 15k. The data is previously stored as raw data in NetCDF format and can be visualized and saved as an image file with the Data Viewer.



CHM Simulator for Cloud Height Simulation

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The Lufft CHM Simulator simulates the cloud height for the ceilometer CHM 15k in order to check its measurement accuracy.



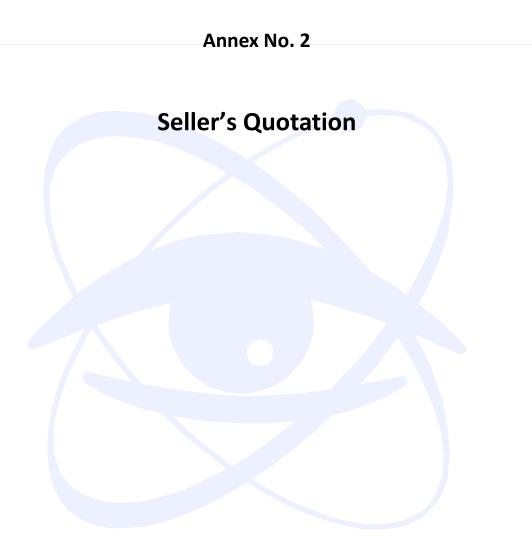
The simulator has to be deployed on the top of the ceilometer covering the laser inlet. One of the five LEDs receives the laser impulse emitted by the ceilometer and, after a certain time has passed, sends an optical signal back to the ceilometer simulating it via the 4 other LEDs.

The time span between receiving and sending the signal as well as the time of flight of the return signal going back to the ceilometer shall correlate with a signal of an actual cloud. The characteristics of this simulated cloud can be determined by using the included CHM Simulator Application. Using the app, which shall be installed on a standard android based tablet, the user can select the cloud height and depth according to its preference. The app communicates via Bluetooth with the CHM Simulator.

Furthermore, the strength of the d.c. light/background light can be chosen in order to check how the ceilometer can manage disturbances caused by background light. The results of this ceilometer-check can be read out directly at the ceilometer instrument. Some of the results are also given out by the app (laser frequency) or can be accessed via the embedded UMB protocol.

Product highlights:

The Lufft CHM Simulator is an on-site calibration equipment to check the measurement accuracy of the cloud height for the ceilometer CHM 15k



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www.lufft.com

Institute of Physics of the Czech Academy of Sciences (FZU) Na Slovance 1999/2 182 21 PRAGUE 8 CZECH REPUBLIC

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13.06.2018 : Fin	al Accented	ffer : +	(solar si	mulator) +	(CHM Viewer)	= 36,995.00 Eu



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