Successful launch of Maser 11 from Esrange at 6:00 hours local time

Images
Press kit in English
Press kit in Swedish
MASER 11 payload animation (Flash)
MASER 11 flight animation (Flash)

Research in microgravity
Using unmanned high-altitude rockets, scientists can perform research in near weightlessness, so called microgravity. Gravity affects many physical, chemical and biological processes on Earth. By reducing the effect of the gravitational pull to only one ten-thousandth of that on Earth, valuable research can be performed.

The MASER program
MASER is a sounding rocket program for microgravity research developed and managed by SSC. The first MASER rocket was launched in March 1987.

MASER 11
The first possible launch date for MASER 11 was 9 May 2008. After some days of unfavourable wind conditions, the rocket was finally launched on 15 May. The flight was successful with a smooth touchdown and all experiments worked well.

The MASER 11 mission comprised four experiments. The mission customer is the European Space Agency (ESA).

GENERAL INFORMATION
Launch site: Esrange Space Center (SSC)
Launch date: 15 May at 04.00 UTC
Customer: European Space Agency (ESA)
Purpose: Experiments in microgravity (6 minutes)
Media information: press kit, see above
Contact: Anne Ytterskog, +46 70 347 66 00
Contact persons: Mr. G Florin, SSC, Project manager
Mr. O Widell, SSC, Esrange, Mission operations coordinator
Prof. Dr. G. Frohberg, ESA, Project Scientist

PARTICIPATING ORGANISATIONS
Mission customer: ESA
**Project management:** Swedish Space Corporation (SSC)

**Project scientist:** Prof. Dr. G. Frohberg. ESA

**Payload integration:** Swedish Space Corporation (SSC)

**Experiment modules:** Swedish Space Corporation (SSC) with subcontractors Techno System Developments, DTM Technologies, Lambda-X

**Service module:** Swedish Space Corporation (SSC) with subcontractor Deutsches Zentrum für Luft- und Raumfahrt (DLR)

**Recovery system:** DLR

**Rocket hardware:** DLR

**Launch contractor:** Swedish Space Corporation (SSC)

**Rocket motor provision:** DLR / Centro Técnico Aeroespacial - Instituto de Aeronáutica e Espaço (CTA/IAE)

**Research organizations:**

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**TECHNICAL INFORMATION**

**Launcher:** Skylark tower

**Rocket motor:** VSB-30

**Motor type:** 2 stages solid

**Motor length:** 3309 mm (stage 1), 4094 mm (stage 2)

**Motor weight:** 1007 kg (stage 1), 1243 kg (stage 2)

**Motor burning time:** 15 sec (stage 1), 29 sec (stage 2)

**Apogee:** 252 km

**Microgravity:** 6 minutes, 26 seconds

**Flight time:** 15 minutes

**Payload:** 4 independent experiment modules, each with its own power supply, served by the Maser Service Module (MASM)

**Experiment modules:** CDIC-2, BIOMICS, SOURCE, XRMON (see details below)

**Payload service systems:** SSC Maser Service Module (MASM). The rate control system RCS is integrated in MASM.

**Digital video system:** Two 5 MBit/s digital video transmitters located in the MASM. Digital video compression units are housed in the experiment modules CDIC-2, SOURCE and BIOMICS.

**Payload length:** 5111 mm

**Payload mass:** 382 kg

**Payload recovery:** One helicopter is used for payload recovery. No fast recovery required.

**Payload recovery system:** DLR/Kayser-Threde European Recovery System (ERS)

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**EXPERIMENT MODULES**

**See animation (Flash)**

<table>
<thead>
<tr>
<th>Module</th>
<th>Experiment</th>
<th>Developed by</th>
<th>Investigator</th>
</tr>
</thead>
</table>
| **SOURCE** | Convective Boiling and Condensation: Local Analysis and Modelling of Dynamics and Transfers | SSC | Dr. Catherine Colin, IMFT, Toulouse  
Dr. Michael Dreyer, ZARM, Bremen  
Dr. Philipp Behruzi, Astrium ST, Bremen  
Jerome Lacapere, Air Liquide, Grenoble |
<p>| <strong>XRMON</strong> | In-situ X-ray Monitoring of advanced Metallurgical | SSC | Dr Francisco Garcia-Moreno, Hahn-Meitner-Institut, Berlin |</p>
<table>
<thead>
<tr>
<th>Processes under Microgravity and Terrestrial Conditions</th>
<th>Prof Ragnvald H Mathiesen, SINTEF/NTNU, Trondheim</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BIOMICS</strong> Dynamics of cells and Biomimetic Systems</td>
<td>SSC Dr Thomas Podgorski and Prof Chaougi Misbah, Laboratoire de Spectrométrie Physique, CNRS, Université Joseph Fourier, Grenoble Dr Natacha Callens, Microgravity Research Center, Université Libre de Bruxelles</td>
</tr>
<tr>
<td><strong>CDIC-2</strong> Chemo-hydrodynamic Instabilities and Pattern at Interfaces between reactive Solutions</td>
<td>Techno System and DTM (subcontractors to SSC) Dr Kerstin Eckert, Technische Universität, Dresden Prof Dr Stefan C Müller, University of Magdeburg</td>
</tr>
</tbody>
</table>

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