



UNIVERSITY OF BERGEN

Department of Physics and Technology
Space Physics Group

Satellite projects

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General:

Staff and students at Space Physics Group, have contributed in the 11 listed satellite projects as follow:

- Scientific and Technical Definitions of Concepts (STDC).
- Development of instrumentation for flight – prototype and engineering model hardware(HW).
- Ground based Support and Bench Checkout Equipment (GSE and BCE).
- Design, building, assembly and test of electrical Flight Modules (FM) and Flight Spare (FS).
- Development of Flight Software (FSW) and software for verification and testing (SW).

Projects:

The Space Physics Group's scientists, post doc's, doc. students and master students have participated in all together 11 satellite project and put a significant contribution to the science, data handling and analysis and in these projects.

<i>Satellite project -- UB Instrument Participants</i>	<i>Launch site and date</i>	<i>UB scientists in the project UB technical staff and key persons in the project</i>
ESRO IA (ESA) Instrument: <i>S71-C</i> - particle detector UB,DRI	Vandenberg AFB, California, USA Okt.3 - 1968	Co-I.: Finn Søråas, Kjell Aarsnes. Technical responsibility: STDC, FM, MF, GSE and BCE. Terje Ryngøy, Hans Torgilsteit, Asbjørn Dale.
ESRO IB (ESA) Instrument: <i>S71-C</i> - particle detector UB,DRI	Vandenberg AFB, California, USA Okt.1 - 1969	Co-I.: Finn Søråas, Kjell Aarsnes. Technical responsibility: STDC, FM, MF, GSE and BCE. Terje Ryngøy, Hans Torgilsteit, Asbjørn Dale.
VIKING (ESA) Instrument: <i>MICS</i> - time of flight detector MPAe, UB, AE, RAL, UoM, LANL, SISP.	Kourou - French.Guiana Feb.22 - 1985	Co-I.: Finn Søråas, Kjell Brønstad, Kjell Aarsnes. Technical responsibility: STDC, FM, GSE, BCE and SW. Svein Njaastad, Arne O.Solberg, Margaret Alme, Arne Auen Grimnes.
CRRES (NASA) Instrument: <i>MICS</i> - time of flight detector Instrument: <i>EPAS</i> , - particle detector MPAe, UB, AE, RAL, LANL	Cape Kennedy, Florida, USA July 25 - 1991	Co-I.: Finn Søråas, Stein Ullaland, Kjell Brønstad. Technical responsibility: FM, BCE. Svein Njaastad, Arne O.Solberg, Harald Hanssen.
GEOTAIL (NASA) Instrument: <i>HEP-LD</i> - time of flight detector MPAe, UB.	Cape Kennedy, Florida, USA July 24 - 1992	Co-I.: Finn Søråas, Stein Ullaland. Technical responsibility: FM ASIC // BCE. Lars Erslund; Åsmund Sandvand //Arne O.Solberg.
NOAA-13 (TIROS-I) (NASA) Instrument: <i>MAXIE</i> - Motion controll system LPARL, UB, AE.	Vandenberg AFB, California, USA Aug. 9 - 1995 MAXIE performed OK. S/C power failed after 12 days	Co-I.: Kjell Brønstad, Johan Stadsnes. Technical responsibility: STDC, FM, FSW, BCE and SW. Arne O. Solberg, Svein Njaastad, Kåre Njøten, Asgeir Myskja.
POLAR (NASA) Instrument: <i>PIXIE</i> – pinhole X-ray camera LPARL, UB, AE, UoM, LANL.	Vandenberg AFB, Florida, USA Feb. 24 - 1996	Co-I.: Johan Stadsnes, Jon Bjordal. Technical responsibility: STDC, FM, MF. Kåre Njøten, Kåre Slettebakken.



Satellite project -- UB Instrument Participants	Launch site and date	UB scientists in the project Technical staff and key persons in the project
CLUSTER (ESA) Instrument: RAPID - time of flight detector MPAe, UB, AE, RAL, LANL, GSFC, U.OULU, SISP, UoB.	Kourou - French.Guiana June 4 - 1996 No success	Co-I.: Finn Søråas, Stein Ullaland, Kjell Aarsnes. Technical responsibility.: STDC, FM ASIC // IES BCE. Lars Erslund, Åsmund Sandvand, // Asgeir Myskja, Lars Søråas, Svein Njaastad.
CLUSTER II (ESA) Instrument: RAPID - time of flight detector MPAe, UB, AE, RAL, LANL, GSFC, U.OULU, SISP.	Kourou - French.Guiana 1.pair launched: July 16 - 2000 2. pair launched: Aug. 9 - 2000	Co-I.: Finn Søråas, Kjell Aarsnes. Technical responsibility: STDC, FM ASIC // IES BCE. Lars Erslund, Åsmund Sandvand, // Asgeir Myskja, Lars Søråas, Svein Njaastad.
INTEGRAL (ESA) Instrument: IBIS - VETO, VME on VDM. UB, LABEN, PAS/SRC.	Baikonor - Kazakstan Oct. 17 - 2002	Co-I.: Kjell Brønstad, Johan Stadsnes, Olav Kjellseth-Moe(Univ.of Oslo). Technical responsibility: STDC, FM. Arne O.Solberg, Svein Njaastad.
CHANDRYAAN-1 (ISRO/ESA) Instrument: SIR-2 – Spectrometer InfraRed MPS,UB,PAS/SRC	Shriharikota - India Oct.22 - 2008	Co-I.: Kjell Brønstad, Kjetil Ullaland (STDC). Technical responsibility: Instrument firmware and FSW: OlavThorheim, Yngve Skogseide FM and FS -HW: Arne O.Solberg, Viviana Reimundo, Bjørn Pommeresche.

Contact persons for the different project :

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**Participating institutions:****Acronym:**

<i>The Aerospace Corporation, Los Angeles, USA</i>	<i>AE</i>
<i>Dansk romforsknings institutt, Denmark</i>	<i>DRI</i>
<i>Goddard Space Flight Center, USA</i>	<i>GSFC</i>
<i>LABEN, Milano, Italy</i>	<i>LABEN</i>
<i>Los Alamos National Laboratory, USA</i>	<i>LANL</i>
<i>Lockheed Palo Alto Research Laboratory, USA</i>	<i>LPARL</i>
<i>University of Maryland, USA</i>	<i>UoM</i>
<i>Max-Planck-Institut für Aeronomie, Lindau, Germany</i>	<i>MPAe</i>
<i>Max-Planck-Institut für Sonnensystemforschung, Lindau, Germany</i>	<i>MPS</i>
<i>Polish Academy of Sciences, Space Research Center, Poland</i>	<i>PAS/SRC</i>
<i>Rutherford Appelton Laboratory, England</i>	<i>RAL</i>
<i>Swedish Institut for Space Physics, Kiruna, Sweden</i>	<i>SISP</i>
<i>University of Oulu, Finland</i>	<i>U.OULU</i>
<i>University of Bergen, Dept. of Physics and Technology, Norway</i>	<i>UB</i>
<i>University of Boston, USA</i>	<i>UoB</i>