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| tart  **Document Guidelines**   * All text must be in present tense and active voice. * [IDRD] indicates the field is required for the Increment Definition and Requirements Document Annex 5: Payload Tactical Plan, Table 3.0. * To check a box: double click > default value = checked > ok. * Submit completed form to: [jsc-iss-program-science-group@mail.nasa.gov](mailto:jsc-iss-program-science-group@mail.nasa.gov). |

**Payloads/Research Common Data**

**(Required for All Investigations)**

**[IDRD] Investigation Name:** Official acronym or short name of the investigation. (If the OpNom is different than the “Investigation Name”, please include the OpNom in parentheses at the end of the “Investigation Title” below).

**[IDRD] Investigation Title:** Official title of the investigation. (If the OpNom is different than the “Investigation Name” above, please include the OpNom in parentheses at the end of the “Investigation Title”).

**Principal Investigator(s):** Names of the scientist(s) responsible for the investigation, professional title, institution affiliation and location. If there are additional Principal Investigators, please use the space at the end of this form.

* **Investigator Location:** State or Country of the institution location
* **Institution Type:**

Academia

Government

Industry

Military

Space Agency

* **Contact(s):** Name, email address and phone number [(###) ###-####], of the investigators and the name, email address and phone number of the primary and secondary individuals to contact about the investigation.
* **Mailing Address:** The mailing address of the Principal Investigator(s).

**Co-Investigator(s)/Collaborator(s):** Names of the other scientists working on the investigation, professional title, institution affiliation and location. If there are additional Co-Investigators, please use the space at the end of this form.

* **Investigator Location:** State or Country of the institution location
* **Institution Type:**

Academia

Government

Industry

Military

Space Agency

* **Contact(s):** Name, email address and phone number [(###) ###-####], of the Co-Investigators/Collaborators to contact about the investigation.
* **Mailing Address:** The mailing address of the Co-Investigator(s)/Collaborator(s).

**Developer(s):** The Space center, company or institution where the investigation and hardware are developed, city and state or city and country.

**[IDRD] Sponsoring Space Agency:**  Space agency responsible for the development and integration of the investigation.

Canadian Space Agency (CSA)

European Space Agency (ESA)

Japan Aerospace Exploration Agency (JAXA)

National Aeronautics and Space Administration (NASA)

Roscosmos

**Sponsoring Organization:** Official name of the NASA organization responsible for funding the investigation.

Department of Defense (DoD)

Human Exploration and Operations Mission Directorate (HEOMD)

Italian Space Agency (ASI)

National Laboratory Office (NLO)

National Laboratory Education (NLE)

Science Mission Directorate (SMD)

Technology Demonstration Office (TDO)

**[IDRD] Increment(s):** (*Increment Specific*) A list of increments the investigation has been or will be performed on.

* **Flight:** (*Increment Specific*) Complete only if the investigation is a Sortie (it flies up and down on a vehicle and does not cross over to the ISS). This field contains the Mission that it was performed on, e.g., "SpaceX-1".
* **Number of Investigations:** (*Increment Specific*) The number of investigations is usually one; however, for certain payloads this number may be larger. Please consult the Investigation Definition Document with the Program Science Office for help if the payload includes multiple independent investigations.

**[IDRD] Brief Research Summary (PAO):** Short, concise description of the investigation (no more than 3 sentences) summarizing what research is being done and why. Information must be written on an 8th grade level. Information is used in reports for NASA Headquarters, Congress, Crew Briefings and Press Kits.

**Research Summary:** Slightly more detailed than the PAO summary. The Research Summary is completed by answering the questions below as briefly as possible, and written on an 8th grade level. Information is used in the Research and Planning Working Group (RPWG) Planning process and Crew Briefings.

* Why is the research needed?
* What will be accomplished?
* What will be the impact of the research?

**[IDRD] Category/Subcategory:** The investigation is classified with one research category and one subcategory. Choose one category and select the subcategory.

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|  | **Biology and Biotechnology** | | |
|  |  | Animal Biology – Invertebrates | Microbiology |
|  |  | Animal Biology – Vertebrates | Microencapsulation |
|  |  | Cellular Biology | Plant Biology |
|  |  | Macromolecular Crystal Growth | Vaccine Development |

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|  | **Earth and Space Science** | | |
|  |  | Astrobiology | Earth Remote Sensing |
|  |  | Astrophysics | Heliophysics |

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|  | **Educational Activities and Outreach** | | |
|  |  | Classroom versions of ISS Experiments | Educational Demonstrations |
|  |  | Commercial Demonstration | Engineering Education |
|  |  | Cultural Activities | Student-development experiments |
|  |  | Education Competitions |  |

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|  | **Human Research** | | |
|  |  | Bone and Muscle Physiology | Immune Systems |
|  |  | Cardiovascular and Respiratory Systems | Integrated physiology and Nutrition |
|  |  | Crew Healthcare Systems | Neurological and Vestibular Systems |
|  |  | Human Behavior and Performance | Radiation Impacts on Humans |

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|  | **Physical Science** | | |
|  |  | Complex Fluids | Fundamental Physics |
|  |  | Combustion Science | Materials Science |
|  |  | Fluid Physics | Plasma Physics |

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|  | **TBD: To Be Defined Based on Selected Science Objectives** |

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|  | **Technology Development and Demonstration** | | |
|  |  | Air, Water and Surface Monitoring | Microbial Populations in Spacecraft |
|  |  | Avionics and Software | Microgravity Environment in ISS |
|  |  | Characterizing Experiment Hardware | Pico satellites and Control Technologies |
|  |  | Communications and Navigation | Radiation Measurements and Dosimetry |
|  |  | EVA Systems | Robotics |
|  |  | Fire Suppression and Detection | Spacecraft and Orbital Environments |
|  |  | Food and Clothing Systems | Spacecraft Materials |
|  |  | Imaging Technology | Thermal Management Systems |
|  |  | Life support Systems and Habitation |  |

**[IDRD] Hardware Description:** (*Increment Specific*) Contains the name of the hardware item(s) used to perform the research and a brief description that indicates, in general terms, the payload’s size and function.

**[IDRD] Unique Payload Constraints:** (*Increment Specific*) A brief description of the integration and its operational requirements.

**Project Type:** Indicates the type of investigation on ISS:

Commercial Payload

Deployable

Detailed Supplementary Objective (DSO)

Payload

Station Detailed Test Objective (SDTO)

Supplemental Medical Objective (SMO)

**Images and Captions:**

Submit images separately in a high resolution .jpg format with the completed Investigation Summary Form. Drawings may be submitted if images are not available. Image caption should have a detailed description of the activity occurring in the image, a NASA number if available, and image credit information. Images of the investigation on the ISS will be added following operation.

**Image Caption 1:**

**Image Caption 2:**

**Image Caption 3:**

**Image Caption 4:**

**Operations Location:** Indicates where the investigation is performed:

Pre/Postflight

Sortie

ISS Inflight

ISS External

Ascent Only

Descent Only

**Brief Research Operations:** Brief bulleted summary of the operations used to perform activities for the investigation. Information is used in the Research and Planning Working Group (RPWG) Planning process and Crew Briefings. No more than 10 sentences.

**Previous Missions:** Missions that the investigation was manifested on, prior to ISS, or related investigations already completed on ISS.

**Additional Information and Results**

**(Optional for non-US Sponsored Investigations)**

**Detailed Research Description:** Provides a place for a more technical description of the objectives of an investigation aimed at an interdisciplinary scientific audience. Several paragraphs may be used. Technical terminology should be defined to ensure readability. This field may also include a brief description of hardware.

**Operational Requirements:** Defines constraints and requirements necessary to complete the investigation (number of subjects or observations, spacing of observations, downlink of data, return of samples, etc.).

**Operational Protocols:** Descriptive overview of the investigation on orbit procedures.

**Space Applications:** Information on how this investigation supports/benefits the space program.

**Earth Applications:** Information on how this investigation supports/benefits people on Earth.

**Education Activities:** Defines educational activities associated with the investigation and a brief description of student involvement. Include number of students, teachers and schools impacted.

**Web Sites:** Listing of web sites with information regarding the investigation.

**Related Payloads:** Other investigations that are currently or have flown on ISS that have similar objectives.

**Publications**

**Related Previous Research Publications:** Citation listing of publications which contain previous research used to develop the investigation. These publications should be a sample of the research previously done which has lead to this investigation on the ISS, the list of these publications should not exceed five (5).

**Additional Investigators**

**Principal Investigator(s):** Names of the scientist(s) responsible for the investigation, professional title, institution affiliation and location.

* **Investigator Location:** State or Country of the institution location
* **Institution Type:**

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Government

Industry

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* **Contact(s):** Name, email address and phone number [(###) ###-####], of the investigators and the name, email address and phone number of the primary and secondary individuals to contact about the investigation.
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* **Investigator Location:** State or Country of the institution location
* **Institution Type:**

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* **Contact(s):** Name, email address and phone number [(###) ###-####], of the Co-Investigators/Collaborators to contact about the investigation.
* **Mailing Address:** The mailing address of the Co-Investigator(s)/Collaborator(s).

**If there are more investigators than we have allocated space, please copy, paste and fill in the information for each investigator.**