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The Planck Legacy Archive, present and future

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The Planck Legacy Archive (PLA) hosts the products from the European Space Agency mission to study the Cosmic Microwave Background (CMB). The PLA web interface (<https://pla.esac.esa.int>) directs the users to a wide variety of Planck products, e.g., time ordered data, CMB maps, frequency and astrophysical components maps (Dust, Synchrotron, Free-Free, CIB,...), source catalogues and other products needed for cosmological studies (angular power spectra, likelihood, lensing maps, simulations). Advance Search panels are available to extensively query the PLA database, in addition to embedded links to the Planck Explanatory Supplement documentation, multiple data download options, and Helpdesk support.

Three major releases of Planck products took place in 2013, 2015, and 2018 and a selection of products have been tagged as “Legacy” to identify the version of each product most appropriate for general scientific use. In 2021 a new release of products will take place with a joint reprocessing of LFI+HFI time ordered data that includes additional information not used in previous releases. In addition, EU funded projects reprocessing Planck data, or combining it with other experiments, are expected to deliver to the PLA higher level data products of interest to the CMB Community.

The PLA also offers specialized tools that facilitate the processing of Planck products. These tools are mainly designed to help users who are not familiar with some of the particularities of the Planck products, and can be categorized into distinct groups: map operations including component subtraction, unit conversion, colour correction, bandpass transformation, and masking of map-cutouts/full-sky maps; component separation codes, map-making codes and effective beam-averaging. In addition, the PLA includes an interface to the latest version of the Planck Sky Model simulation tool, with a simple user interface that allows users to simulate the microwave/sub-millimetre sky with Planck, as well as future CMB experiments and custom-defined instruments.

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