EDAP Framework for the geometric validation of high resolution optical data

Sébastien Saunier[1], Andrea Melchiore, Kevin Halsall, Rubinder Mannan,Clément Albinet, Giuseppe Ottavianelli, Philippe Goryl, Valentina Boccia

1) sebastien.saunier@telespazio.com, Telespazio

Abstract

For over 40 years ESA's Earthnet Programme has played a significant role as part of ESA's mandatory activities, providing the framework for integrating non-ESA missions, i.e. Third-Party Missions (TPM), into the overall ESA Earth Observation (EO) strategy. This programme also allows European users access to a large portfolio, promoting the international use of the EO data. In agreement with the Earthnet Programme objectives, ESA aims to foster cooperation and collaboration with not only other national space agencies, but also commercial mission providers.

There has been an increase on the number of commercial companies using their own satellite systems for data derivation, due to their low cost, establishing in this way business models. Due to the availability of these new missions, the Earthnet Data Assessment Pilot (EDAP) is created to assess the quality and the suitability of TPM and EO ESA missions In the context of optical Very High Resolution data, the geometric accuracy is a key parameter revealing the fitness of products for application purposes, including integration into the existing constellation.

Also, this paper is presenting the EDAP Cluster of expertise dedicated to the quality control of the geometry. After an overview of the geometric quality parameters including the absolute geolocation accuracy and the image inner geometry accuracy, the paper is focusing on the accuracy assessment methods developed in collaboration with NPL and the processing infrastructure set up for operational activities. Finally, first results from on-going analysis are discussed.

Keywords - Operational quality control