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Innovative data processing solutions in the perspective of the SKA Regional Centres.

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The SKA Regional Centres (SRC) are expected to provide essential functions like computational capacity for data reprocessing and science analysis, provision of a SKA Science Archive and local user support. The SRC Steering Commettee (SRCSC) is currently operating to define and create a long term operational partnership between the SKA Observatory and an ensemble of independently resourced SRC. The SRCSC is carrying out its work through subgroups to focus on specific areas.

We will report on the activity of one of these working groups (WG6), that has the identification of use cases to run on proto-SRCs as one of the main objectives. The use cases have to challenge the current available infrastructures identifying the requirements to effectively handle the SKA data in terms of computing, network, archiving and software. In particular, software has to be improved in order to i) exploit high performance computing solutions to cope with large data ii) exploit innovative numerical solutions to increase accuracy and, at the same time, minimize human supervision, impossible for such huge data volumes. Machine learning solutions are currently among the most promising from both points of view. Their potential for radio astronomy data are currently under investigation adopting LOFAR and ASKAP prototype data products. An overview of our achievements will be presented.

Reasearch area

Other

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