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From AAVSs to AA0.5: observational highlights on the path to SKA-Low science commissioning

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The Aperture Array Verification Systems (AAVS), developed between 2014 and 2024 by a large international collaboration between the SKA Organization/SKAO and partner institutes and Universities, were a critical steppingstone in the path to SKA-Low. Originating from the need to validate novel antenna designs, signal processing systems, and station-level infrastructure for SKA-Low, they significantly improved the performance and operational readiness of Low telescope stations. With SKA-Low now entering its science commissioning phase, their value is evident.
In this talk, I will provide a high level review of the AAVS's history, focusing on the major results obtained through full single station astronomical observations. Particularly, those achieved during AAVS2 and AAVS3 phases, that led to deep insights into station sensitivity, stability, and polarisation performance were achieved through dedicated calibration and all-sky imaging techniques.
The outputs of the AAVSs retired risk, proved subsystems, and made a major contribution to allow SKA-Low to pass the final Design Review.
The observational experience from AAVS campaigns now underpin the early science commissioning results of SKA-Low's Array Assembly 0.5 (AA0.5) phase.

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