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Phase stabilised microwave frequency dissemination across a 200 node, 3000 km optical fibre network

We present the industrial mass manufacturing processes that has enabled us to develop the Frequency Distribution System for the mid-frequency Square Kilometre Array radio telescope. The system performs microwave frequency dissemination across an optical fibre network, encompassing 197 modular receive-transmit nodes and a total fibre link of > 3000 km, with individual segments up to 173 km in length. The system is designed to be cost effective, have a > 99.9% up time, and disseminate microwave-frequency signals with residual instability below 10^{-16}.

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