

Talk at Splinter Meeting

Splinter B

THE EFFELSBURG 100-M TELESCOPE – RECENT RESULTS AND
CURRENT DEVELOPMENTS

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The 100-m radio telescope of the Max-Planck-Institut für Radioastronomie (MPIfR) at Effelsberg is a unique European astronomical facility that combines superb sensitivity and wide frequency coverage with distinct versatility. Even more than 40 years after its inauguration, the telescope is still in perfect shape, due to continuous efforts of the institute.

Currently, a major receiver upgrade is going on, with the development and installation of several new wideband receivers that allow simultaneous measurement of up to 8 GHz of bandwidth, greatly increasing observing efficiency. To keep pace, our backends need an enormous increase in bandwidth, without trading-in spectral resolution. This is achieved by state-of-the-art FPGA-based devices, like the new VLBI DBBC or our in-house developed FFT spectrometers. The huge bandwidth and resulting data rates also require completely new data reduction solutions.

In this talk, we will report on the status of the telescope, describe the current activities for the upgrade, and highlight some recent scientific results, among them the first data release of the Effelsberg-Bonn HI survey and the discovery of a magnetar in the Galactic Center.