

Developing FPT/SFPR capabilities for APEX and Effelsberg telescopes

In this talk, we will briefly introduce recent FPT/SFPR-related activities with the M2FINDERS project, which aims at mapping the magnetic field at the event horizon scale of SMBHs.

First, a recent single-baseline test between APEX and IRAM 30-m RT has successfully demonstrated the FPT method up to 258 GHz, which extends the 258 GHz coherence time from 10 seconds to ~ 1 minute (90% coherence level).

Second, a 22/43/86 GHz triple-band receiver is being built at the MPIfR for the Effelsberg 100-m telescope. This receiver adopts a new design from the existing compact triple-band receivers. The new receiver is expected to have improved noise performance and will be deployed in 2025. Together with the large collecting area, Effelsberg will be a key station in the upcoming Global FPT/SFPR array. We will discuss commissioning plans for the new receiver, including joint VLBI test observations.

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